A SPECIAL REPORT

from the Editors of Satellite Week

ENTER

DBS

The Story of Direct Broadcasting Satellite Development in 1984

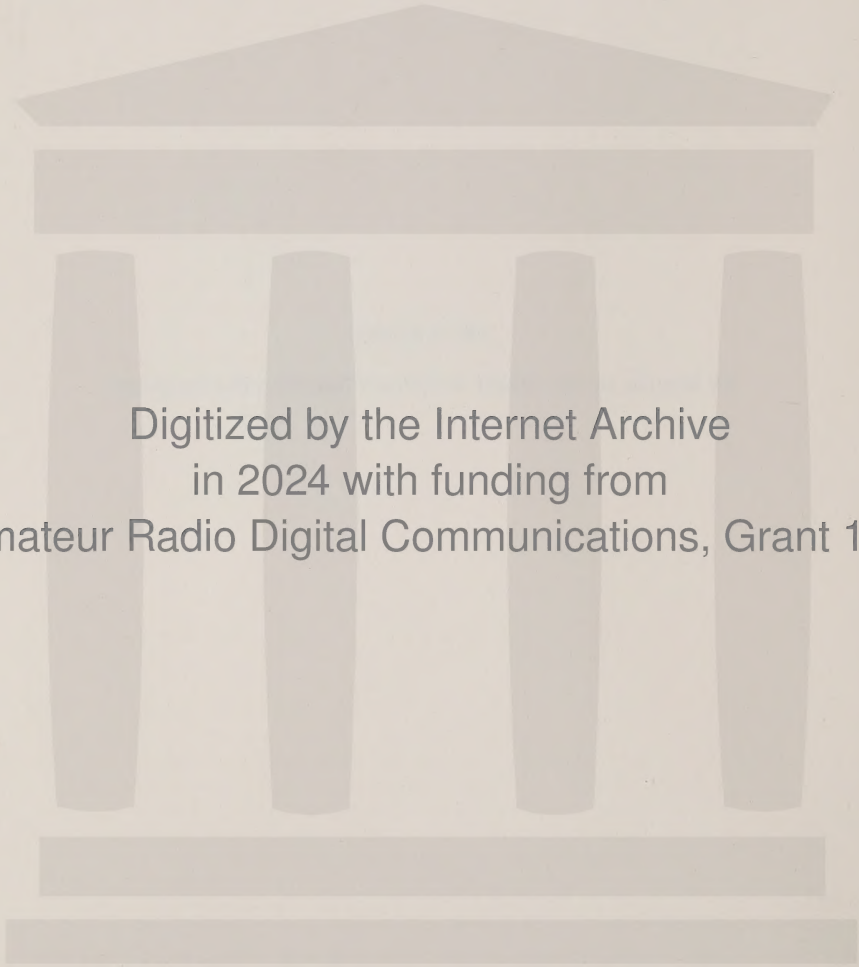
TELEVISION DIGEST INC.

Television Digest, Inc.
1836 Jefferson Place, N.W.
Washington, D.C. 20036

ENTER DBS

18 Months in the Direct Broadcast Satellite Marketplace

A Publication of Television Digest, Inc. 1836 Jefferson Pl., N.W.
Washington, D.C. 20036. (C)1985. All Rights Reserved.



Digitized by the Internet Archive
in 2024 with funding from
Amateur Radio Digital Communications, Grant 151

https://archive.org/details/enterdbs18months00unse

TABLE OF CONTENTS

	NEWS ARCHIVE INDEX	i
	ENTER DBS	ix
	NEWS ARCHIVE	1
	GENERAL INDEX	126

NEWS ARCHIVE INDEX

May 30, 1983	EUROSATELLITES	1
	"Big dish" home earth station business	1
June 6, 1983	INTERNATIONAL SATELLITE MARKET IS DEBATED AT PARIS SALON; LAUNCH COSTS, FIBER CABLE COMPETITION, SIZED UP FOR REST OF DECADE	1
	MONTREUX TV SYMPOSIUM ATTRACTS 9,500 FROM 60 COUNTRIES	3
	CHARYK FINDS MURDOCH FASCINATING	4
	FCC upholds GTE Satellite's transponder lease deal with Telesat Canada	4
	FCC amends Part 2 of its rules to implement some final provisions of 1979 WARC	4
	Situation at Oak is serious but not desperate	5
	DBS Corp. Pres. Wilbur Pritchard praises Comsat	5
June 13, 1983	REGION 2 SETS OUT TO MAP DBS SATELLITE FUTURE	5
	CBS, HBO, 2 MOVIE STUDIOS, ENTER U.K. CABLE PROGRAM MARKET	8
	FCC CALLS FOR INDUSTRY ADVICE ON DBS STANDARDS	8
	Upper limits to satellite size will be set by maintaining dual compatibility with shuttle & ELVs	9
	Indian Govt. awards Ford contract to build 3rd of its multi-purpose satellites	9
June 20, 1983	FIRST EUTELSAT IN TRANSFER ORBIT AFTER PERFECT ARIANE LAUNCH	9
	Schlumberger Technology Corp. will use transponder on SBS-2 to test transmissions on 1.2-m terminals	10
	Study group at RARC picks 12.2 GHz as DBS divide	10
	Japan's first DBS may come from Nippon Satellite Information and Japan Satellite Bcstg.	10
June 27, 1983	USCI AND STC TALK MERGER, PLAN STRATEGY	10
July 4, 1983	TURNER NEGOTIATES TO SUPPLY DBS PROGRAMMING	11
July 11, 1983	U.S. & CANADA RARC TALKS SPLINTER	12
	Advanced TV Systems Committee adds 28 members at first official business meeting	12
	Galaxy I's solar panels drop open July 4, readying "shopping center" bird for Aug. operation	13
July 18, 1983	U.S. DBS RARC DELEGATION DECLARES VICTORY: FINAL TECHNICAL RARC SCHEME	13

	USSB SAYS IT'S NOT FAZED BY EARLY ENTRY DBS RIVALS	16
July 25, 1983	GENEVA DBS CONFERENCE: WHO REALLY WON?	17
	French PTT and Ministry of Communication squabble over use of TDF-1 satellite	19
August 1, 1983	M/A-COM TO DESIGN MURDOCH'S INTERIM DBS SYSTEM	19
	Industry slow to react to RARC report	20
	Portugal's RTP looks into DBS	20
August 8, 1983	Time Inc.'s 6 Galaxy transponders lie unclaimed	20
	Oak Communications says it expects to produce DBS decoding systems for early-entry firms	21
	European Bcst. Union's general assembly approves British-developed C-MAC standard for advanced TV	21
	DBS digital radio system to preview at Berlin Audio & Video Fair	21
	Murdoch and Turner discuss programming possibilities	21
August 22, 1983	Canada's Baton Bcstg. wants to launch 24-hour all-news channel	21
August 29, 1983	NEC AND TELEASE SIGN DEAL FOR DBS ENCRYPTION SYSTEM	21
	COMSAT'S DBS UNIT SEEN ON VERGE OF DEAL WITH GENERAL CINEMA	23
	Programming will be key to DBS success, Satellite Communication Users Conference panelists say	23
	FCC's DBS Industry Advisory Committee plans first meeting	24
September 5, 1983	EUROPEAN SATELLITE SYSTEM ARISING IN LUXEMBOURG	24
	GENERAL INSTRUMENT PLANS BUSINESS DBS	25
	Harvey Schein named Skyband pres.	25
September 12, 1983	ADVANCED TV SYSTEMS GROUP ATTRACTS MEMBERS, CHARTS STUDY OF IMPROVED TV TECHNOLOGY	25
September 19, 1983	HARVEY SCHEIN ON SKYBAND'S CHANCES IN DBS MARKET	26
	INSAT 1-B RESCUED; FORD PLANS TO ENTER TRANSFER STAGE BUSINESS	27
	U.K. GOVT. APPROVES COMMERCIAL DBS	28
	FCC okay of SBS long-term transponder lease to Murdoch fuels controversy over what constitutes 'broadcaster'	28
	Birmingham conferees question European DBS approach	28
	First meeting of DBS Assn. planned in Washington	29
September 26, 1983	SUMMIT FACULTY 'BULLISH' ON DBS MARKET, FAVOR HIGH-POWER SYSTEMS	29
	CBS wants more time to do 'homework' on DBS	30
October 3, 1983	USCI subscribers in Indianapolis will be first with rooftop receivers for satellite TV	31
October 10, 1983	FCC ISSUES DBS RULES AND PROCESSING PROCEDURES, GUIDELINES FOR U.S. STRATEGY AT SPACE WARC	31
	LPTV OPERATORS EXPLORE AFFILIATIONS WITH DBS FOR PROGRAMMING	32

	Private Satellite Network firms executive team	33
October 17, 1983	INDUSTRY STANDARDS HOLD KEY TO DBS MARKETABILITY, BUT CONFLICTING INTERESTS MAKE TASK DIFFICULT	33
	GENERAL INSTRUMENT WILL SUPPLY ALL NORTHSTAR'S GROUND EQUIPMENT	34
October 31, 1983	NEW SATELLITES UNVEILED AT GENEVA	35
	DBS ASSN. FORMS IN WASHINGTON WITH HIGH HOPES BUT AMIDST SAME CONFUSION AS SIMILAR GROUPS	37
October 31, 1983	SBS orders 2 more satellites from Hughes	38
	General Instrument signs DBS contract with Private Satellite Network, GI's 3rd such award	39
	European satellite-delivered cultural cable channel is planned by consortium of BBC and others	39
	Anik C2 moves to GStar 2's U.S. slot for USCI	39
	STC application for Las Vegas feeder link facility goes on public notice at FCC	39
November 7, 1983	'COMPETITION' AS MUCH AS 'COOPERATION' IN ORBIT MARKS IAF CONFERENCE	39
	PERFORMANCE OF DBS RECEIVING EQUIPMENT SHOULD BE LEFT TO MARKET, FCC GROUP DECIDES	40
	SBS defends its request for 101° west for STC	40
	FCC denies USSB's petition for stay of GTE Satellite's lease of Anik C transponders	41
November 14, 1983	MURDOCH ABANDONS MEDIUM-POWER DBS, DEFERS SKYBAND UNTIL 1985	41
	USCI DEBUTS SANS 2 OF 5 CHANNELS	42
	Backyard satellite receiver market will double, possibly triple, in 1984, insiders say	43
	FCC makes 1,000 changes in its allocation scheme to conform to 1979 WARC rules	43
	STC sets up minority enterprise venture to generate long-term loans and equity capital in DBS-related businesses	43
November 21, 1983	DBS DEBUTS IN INDIANA; HBO & WTBS CONFIRM JOINT SMATV/DBS PLANS	43
	COMSAT DIVESTITURE IS TARGET OF HOUSE BILL	45
	GTE Satellite and FCC file brief in USSB case	45
November 28, 1983	FORD AEROSPACE SIGNS MEMO WITH DBSC TO BUILD DBS SATELLITES	45
	Private Satellite Network's low-power DBS services are set to start operating in Washington in Jan.	46
	Fairchild Control Systems receives contract for Unisat DBS bird	46
December 5, 1983	DBS ISSUES DOMINATE OPENING CEREMONY AT HBO COMMUNICATIONS CENTER	46
	Irish Govt. seeks DBS satellite proposals	47
	NAB files reply comments on FCC's DBS decision in U.S. Court of Appeals, D.C.	47
	Digital stereo sound for DBS is expected	47

December 12, 1983	RADIO SHACK TO BE USCI'S SOLE DBS SALES AGENT	47
	CBS and NHK hone High Definition TV techniques	48
	Galaxy 1 HBO & Cinemax feeds will be scrambled, HBO announces	48
	British equipment maker designs new S-band down-converter for DBS use with Insat or Arabsat	48
December 19, 1983	TURNER HOLDS DBS OVER HEADS OF CABLE OPERATORS; HBO PRESSES AHEAD ON JOINT DBS PLAN	49
	BRITISH STILL TRYING TO SALVAGE UNISAT DBS PROGRAM	49
January 2, 1984	SATELLITE FORECAST FOR '84 INCLUDES HEAVY PUSH FOR KU-BAND	50
	CBS & STC 'EXPLORE' DBS VENTURE	51
	STC PICKS ANCOM & TOSHIBA TO SUPPLY GROUND SEGMENT	51
January 9, 1984	GE Space Div. links with Eurosatellite to pursue 'DBS opportunities.'	52
	GTE Satellite opposes SBS plan to put STS-4 at 101°	52
January 16, 1984	HUGHES PROPOSES DBS 'SHOPPING CENTER'	52
	STC Joins With CBS; HDTV in Offing	54
	BLUME AND FRIEDLAND LEAVE USCI	56
January 23, 1984	HUGHES DEFENDS AGAINST STC CHARGES; STC PURSUES FCC HEARING	57
	Turner Bcstg. forecasts profit in 1983	58
	Re-totalling DBS channels	58
January 30, 1984	USCI EXPANDS SERVICE TO WASHINGTON, D.C. AREA	58
	M/A-Com unveils VideoCipher II scrambling system	59
	FCC accepts 8 DBS filings for minor modifications	59
	HBO still long way from choosing to enter DBS, Pres. Biondi said	59
February 6, 1984	UNISAT SUSPENDS SATELLITE CONSTRUCTION AS BBC/IBA TALKS CONTINUE	59
	Rupert Murdoch settles out of court with SBS	60
February 13, 1984	PROBLEMS SURFACE IN RECEIVING GALAXY SIGNAL ON SMALLER DBS DISHES	60
February 20, 1984	High definition TV in spotlight at SMPTE conference	61
	U.K. firm looks to produce low-cost DBS receiver	61
February 27, 1984	USCI REVEALS HIGH COST OF DBS	61
	Chinese Ministry of Communications delegates visit European satellite manufacturers	62
	U.K. DBS receiver announcement causes stir	63
	Oak Industries wins order for 5,000 decoders Cancom's Canadian C-band DBS service	63
March 5, 1984	APPEALS COURT HEARS ARGUMENTS ON DBS; FCC AND OTHERS WEIGH COURT REACTIONS	63
March 12, 1984	CYGNUS EYES BOTH ATLANTIC & PACIFIC CUSTOMERS	64

	Scandinavia's planned Tele-X may already be obsolete	65
	DBSC asks Wold Communications for help in marketing its common carrier DBS transponders	65
March 19, 1984	HOUSE PANEL ATTEMPTS SALVAGE OF NASA ACTS FLIGHT PROGRAM	65
	CHARYK & GOLDSTEIN SAY 1984 IS YEAR IN WHICH PARTNERS MUST BE FOUND FOR DBS	67
	German TV-Sat to start pre-operational DBS services in 1986	67
	Helvesat, Swiss direct broadcast satellite, may get go ahead in next 6-8 weeks	67
March 26, 1984	DBS ON FRONT BURNER AT AIAA SATELLITE PARLEY	67
	RCA develops shaped beam antennas for STC DBS birds	68
	USCI buys DBS programming from Canadian Bcstg. Corp.	68
April 2, 1984	China Bcstg. Satellite Corp. talks with U.S. launch, satellite equipment suppliers	68
April 9, 1984	LUXEMBOURG OKAYS INTERNATIONAL INVESTORS IN CLAY WHITEHEAD'S EUROPEAN SATELLITE SYSTEM	68
	USCI REALIGNS MARKETING PLAN AGAIN, ABANDONS DISH LEASING	69
	DBSC signs contract with Ford Aerospace for 2 high-power Ku-band satellites	70
April 16, 1984	CHINESE DBS PROJECT LOOKS LIKE EUROPEAN SHOW	70
	TVRO equipment maker R.L. Drake Co. plans to begin manufacturing DBS reception equipment	71
April 23, 1984	COMSAT EXPANDING TO JAPAN IN PLAN TO HALT TECHNOLOGY PRODUCTS LOSSES	71
	Eurosatellite says TDF-1 isn't obsolete	71
	Comsat's quarterly losses in SBS decline slightly due to Murdoch settlement	72
	STC decline comment on rumor of DBS deal with Paramount unit of Gulf & Western	72
April 30, 1984	GLOOMIER OUTLOOK FOR SATELLITE INDUSTRY IS THEME AT SATELLITE SUMMIT	72
	Japanese negotiate with Hubbard Bcstg. over possible investment in USSB DBS venture	73
	China Bcstg. Satellite Corp. reserves 2 spots on Ariane for late 1987 & 1988	73
May 7, 1984	Egypt eyes DBS satellite to serve Egypt & Sudan	73
May 14, 1984	FCC NEARS DECISION ON 72 DOMSAT APPLICATIONS	74
	BRITISH DBS GETS NEW GOVT. CHARTER	74
	FORD SEES END TO BUYER'S MARKET FOR TRANSPONDERS	75
May 28, 1984	U.S. Satellite Bcstg. expects to pick satellite supplier by June for 2 DBS birds, option for 3rd	76
June 4, 1984	NASA sets June 8 deadline for Westar 6 & Palapa B2 underwriters and owners to request salvage mission	76
	French President Mitterrand recommends satellite ventures as means to unify European countries	76

	FCC accepts 4 DBS applications for filing	76
June 11, 1984	UNITED SATELLITE'S MONEY WOES BUILD, INSTALLATIONS LAG	77
	Germans tout commercial successes at Hanover International Aerospace Exhibition in May	77
	Talks between Pakistan govt. & Arianespace could lead to country's launch of DBS bird by 1988	78
June 18, 1984	DBS ADVISORY COMMITTEE FAILS TO SET STANDARDS	78
	USCI isn't undercapitalized, Pres. Kwit says	78
	RCA Astro tests Nippon Electric-developed high-power TWTAs at up to 230 watts	79
June 25, 1984	FCC approves modifications to construction permits for CBS and Dominion Video Satellite	79
	Promoters of Britsat say they can beat Unisat's price for same services	79
	SBS prepares sale & leaseback deal on SBS-4	79
July 2, 1984	CBS CANCELS ALL DBS PLANS; COMSAT UNIT IN SERIOUS TROUBLE; GTE EYES STAKE IN USCI	80
July 9, 1984	SPACE EXPERTS LOOK BEYOND COMMUNICATIONS SATELLITES FOR SPACE PROFITS	81
	RCA AND HUGHES VIE FOR LUXEMBOURG DBS CONTRACT	83
	British Aerospace's bid to build DBS fleet for USSB wasn't as high as reported	83
	FCC grants SBS temporary authority to operate bird at 101 west to provide services to STC	83
July 16, 1984	RCA PROJECTS SLOWER DBS GROWTH; WESTERN UNION PULLS OUT	84
July 23, 1984	STC TELLS FCC IT WANTS TO EXPAND DBS ENTRY PLANS FOR COAST-TO-COAST COVERAGE	85
	IBM & AETNA WILL BUY OUT COMSAT'S SHARE OF SBS FOR UNDISCLOSED PRICE	86
	FCC approves Dominion Satellite's showing of "due diligence"	87
July 30, 1984	APPEALS COURT RULES DBS IS 'BROADCASTING'	87
	Final report of FCC Advisory Committee on DBS Technical Standards is available	88
August 6, 1984	EUROPEAN PRESSURE MAY DELAY LUXEMBOURG'S SATELLITE PLANS	88
	Swiss are looking at own DBS system	88
August 13, 1984	LIMITS TO DISH ZONING LAWS ARE TOPIC FOR FCC RULING	89
	Gene Jankowski, CBS Best. Group pres., explains decision to pull out of talks with STC	89
August 20, 1984	U.S. STUDIES NUCLEAR-POWERED SATELLITE TO BROADCAST BEHIND IRON CURTAIN	91
	HBO SEES TROUBLES WITH SCRAMBLED DBS BUT REMAINS COMMITTED	93

	British Independent TV News intends to bid for slot on Britain's DBS bird	94
	Comsat and STC continue "no comment" response to reports of merger with USCI	94
August 27, 1984	DOMINION SEEKS TO SERVE EVANGELICALS WITH DBS OFFERING	94
	USCI & COMSAT REPORTED NEAR DBS MERGER	96
	Comsat General signs consulting contract to aid China Bestg. Satellite Corp.	96
September 10, 1984	HOME SATELLITE SHOW IS BIG, BUT SOME WONDER AT INDUSTRY'S COURSE	96
	COMSAT, PRUDENTIAL AND DOUGLAS RUHE STRIKE DEAL TO OPERATE DBS FIRM	98
September 10, 1984	THIN CROWD TACKLES SATELLITE ISSUES AT SUPERDOME	99
	HUGHES WOULD PROVIDE HYBRID DBS/FIXED SATELLITE TO IRISH ENTREPRENEUR	99
September 17, 1984	FCC ASKS DBS REHEARING, WARNS OF NEGATIVE IMPACT OF COURT RULING	100
September 24, 1984	AUSTRALIAN DBS WILL USE B-MAC TRANSMISSION SYSTEM	101
	CHARYK & GOLDSTEIN PONDER COMSAT'S FUTURE	101
October 1, 1984	EUTELSAT HERALDS CORONET DEMISE BUT LUXSAT PRINCIPALS AREN'T QUITTING YET	101
	RCA LOOKS TO DBS 2ND ROUND; DBSC & GRAPHIC SCANNING FATES UNCLEAR	102
	BBC LEADER SAYS U.K. CAN'T LEARN FROM AMERICAN CABLE EXPERIENCE	103
	FCC Comr. Rivera looks at Court decision on DBS	104
October 8, 1984	SATELLITE SERVICES TO FARMERS	104
	ARIANESPACE AND DBSC AGREE TO CREATIVE FINANCING OF 2 LAUNCHES	105
	HR-4103 TO LEGALIZE BACKYARD EARTH STATION USE	106
	COMSAT, PRUDENTIAL AND RUHE EYE MANAGEMENT CHANGES FOR DBS FIRM	107
	U.S. Appeals Court, D.C., denies FCC's request for en banc rehearing on DBS decision	107
October 15, 1984	'BROOKS...THE SATELLITE STORE' GOES NATIONAL, OFFERS FRANCHISES	107
	FCC ACTS ON 'DUE DILIGENCE' OF DBS APPLICANTS	108
	Nordic officials pick C-MAC transmission system for regional DBS birds	109
October 22, 1984	BIONDI DEPARTURE AND TIME FINANCIAL REPORT CLOUD HBO'S DBS PLANS	109
	DBS TO VIE WITH CABLE FOR AD DOLLARS, PROGRAMMING	110
	DOJ CLEARS DBSA TO SET DBS STANDARDS	111
	Technical problems delay launch of TDF-1	112
	DBS home terminals are on sale in Tokyo	112
	Switzerland Federal Council rejects private offers to operate country's DBS system	112
	Release of China's RFP for 2 of 4 planned DBS birds is imminent	112

October 29, 1984	USCI SAID TO HAVE HAD LITTLE BEYOND HYPE	112
	COMMERCIAL DISH BUSINESS LAGS; SLOWDOWN IN CABLE BUILDING CITED	113
November 5, 1984	BACKYARD DISH MARKET BOOMS, MOVES TO STANDARDIZE, GEARS FOR BANNER 1985	114
	LUXEMBOURG GIVES CORONET FREEDOM TO BE	115
	SCIENTIFIC-ATLANTA PUSHES B-MAC FOR CABLE AND BROADCAST AS WELL AS DBS	116
November 12, 1984	Unisat proposes redesign of U.K.'s DBS satellite	117
	DBS equipment manufacturers present design proposals to DBS Assn.	117
	Graphic Scanning has asked FCC to reinstate its DBS permit	117
	Officers in DBS Assn. elected	117
November 19, 1984	HBO TELLS STAFF 100 WILL BE LET GO	118
	STC REVAMPS BUSINESS PLAN FOR DBS VENTURE	118
	ARIANESPACE TO BOOST LAUNCH RATE TO 6-7 IN 1985	119
November 26, 1984	CANADIAN SATELLITE USERS PONDER FUTURE, EYE NEW MARKETS	120
	BRITISH OPPOSE WESTERN HEMISPHERE DBS TREATY	123
	FCC has decided not to appeal Court's decision that overturned Commission rules on DBS	123
December 3, 1984	COMSAT TERMINATES DBS TALKS WITH PRUDENTIAL	123
	M/A-COM READY TO MAKE HOME DECODER UNITS	124
	FCC is expected to authorize next round of DBS applicants at next Commission meeting	125

ENTER DBS

What ever happened to Harvey Schein? No, this isn't Trivial Pursuit; that name from the not so distant past belongs to the News America Publishing executive designated to head Rupert Murdoch's DBS venture, Skyband. Like so many other DBS hopefuls in the last year and a half, Skyband never got off the ground.

As the story begins in ENTER DBS, several companies were poised to launch DBS systems. Today, a year later, the DBS industry is widely perceived to be in big trouble. But the common perceptions often are based on an incomplete picture. The sales of home satellite television equipment are booming. While it's true that major players like Comsat, CBS and RCA have backed away from DBS, others -- most notably Hughes Aircraft -- are stepping forward to take their places.

ENTER DBS is intended to provide novices and experts with a convenient reference to the state of the satellite television industry. The content of the book is not restricted just to the "official" DBS business but includes information on related activities, in particular the home earth station business.

ENTER DBS, compiled by the editors of Satellite Week, takes a national and a global view. The book incorporates articles illustrating the regulatory, marketing and financial problems of DBS in America, and looks at developments in Europe, Japan and elsewhere.

Many themes can be traced through the pages of ENTER DBS:

Definitions are being re-written. It took the U.S. Appeals Court in Washington to inform the FCC that DBS was in fact "broadcasting," and would have to be regulated as such under the Communications Act (p 87). By early 1985, there will be a million backyard TVROs in the U.S., which means direct-to-home satellite TV already exists, despite the fact that not a single high-power system will be in operation before 1986.

The concept of early-entry is being developed. Galaxy 1, Hughes' cable satellite, became operational on July 4, 1983, causing some to believe that the higher-powered C-band bird could be an entry to DBS. But the dismal performance of United Satellite Communications showed that getting to market too quickly is not without its hazards.

Big players continue to drop out. In July of 1984, CBS canceled its DBS plans and ended partnership talks with Comsat. Two weeks later RCA delayed its plans and Western Union withdrew.

Standards continue to be vexatious. Manufacturers have yet to come up with any DBS equipment standards, making it unlikely that consumers will be able to watch more than one system with a single dish.

In Europe, the problems are equally troublesome. The British ended 1984 no closer to working out a viable DBS scheme than they were 12 months earlier. The French conceded that they had little programming to place on their forthcoming TDF-1 DBS, and made a deal with Luxembourg. The Germans are still confused about what to do next. Livening the European scene was the emergence of Luxembourg's entrepreneurial Coronet, which has challenged two sacrosanct European principles. Coronet's backers believe firstly that there is room for a satellite financed entirely by the private sector, secondly, that satellite broadcasting can be accomplished using a medium-power spacecraft.

DBS may still succeed in America and maybe even in Europe -- but probably not in the way that was anticipated 2 years ago. Failures shape a marketplace as much, if not more, than do successes and DBS has had plenty of the former. Those who remain interested in DBS's potential would be wise to study history. It is for them that we've compiled ENTER DBS.

The Editors

May 30, 1983

EUROSATELLITES

AMSTERDAM: How will Holland use its ECS-1 transponder? This is subject of considerable dispute in Netherlands, where Dutch PTT, culture ministry, churches and political parties are trying to figure out some way to divide the spoils. Dutch broadcasting is organized in kind of spectrum condominium, with various religious & political groups allocated shared access to broadcast frequencies.

Disturbing this delicate arrangement is politically highly sensitive, requiring reconciliation of numerous partisan & sectarian claims. Significant claims to Dutch transponder have come thus far from:

--NOS, Dutch national broadcasting organization, which wants to develop 3rd channel for cable networks in Netherlands, with funding from compulsory levy of $2 per month from Dutch cable subscribers.

--Euro-TV, which is seeking to develop Dutch & Belgian pay-TV channels, latter using Belgian ECS transponder, in collaboration with SEPP International (producer of Smurfs, kid-vid phenomenon). Euro-TV, which faces significant regulatory obstacles to both these plans, also seeks to create "experimental" Atlantic channel using leased Intelsat V transponder. Ad-supported service, which Euro-TV Dir. D.E.F. Minning says could start in June, would have European uplink at Hilversum, U.S. uplink at CBN hq in Va., could be received on 3.7-m dishes throughout Europe.

* * *

European Bcstg. Union is reportedly planning 10-hour-daily ECS feed 7 a.m.-6 p.m. (GMT+2), supported by ads & $1-per-month subscriber fee. Italian govt. has obtained one Eutelsat-1 transponder for data and TV transmission and plans to use L-Sat 1 to broadcast national DBS channel. Satelliti Radiotelevise Italiana, SARIT, wants eventually to broadcast 3 DBS channels. Norway's NRK plans 1985 pay-TV channel through transponder on ECS-1 for European cable viewers.

"Big dish" home earth station business could thrive despite DBS competition, according to Venture Development Corp., Wellesley, Mass. consultancy. Citing "impressive" selection of channels available via conventional C-band satellites, VDC reported that lower price of DBS systems doesn't produce shift of consumer interest from larger systems for capturing signals from fixed-type satellites. VDC said system cost is most important influence on consumers, said that if earth station manufacturers continue to drive down prices of their equipment, "they may be able to compete very effectively with their DBS cousins." Darkest cloud on horizon for big-dish industry is advent of scrambling, VDC reported.

June 6, 1983

INTERNATIONAL SATELLITE MARKET DEBATED AT PARIS SALON; LAUNCH COSTS, FIBER CABLE COMPETITION, SIZED UP FOR REST OF DECADE

PARIS -- "We will never build a bigger satellite than Intelsat VI," Hughes Space & Communications Pres. Albert Wheelon told reporters at Paris air show soiree. Assertion served as major point in controversy turning around shape, size & specifications of satellite of future. These questions drew debate even within companies represented at international air & space salon. Following is discussion of launch vehicles, upper stages, configurations of satellites serving late 1980's-early 1990's from perspective of those who will design & market them: Wheelon's much discussed theory of future satellite systems involves cluster concept whereby 6-12 satellites could be grouped together in one orbital location, each with package of spot beams and each with capacity of being repaired in orbit or replaced when spent. Hughes has patent on concept and Wheelon has reputation of being its best salesman -- many in international group of satellite makers heard from him at some point in 2-week meeting.

Upshot of argument for smaller, clustered satellites versus larger modular units which could have parts removed & replaced in orbit is that: "It's easier to replace one whole satellite, and it's more likely that parts for variety of purposes will wear out at different rates [making modular repair costly and cumbersome]," Wheelon said.

'Midsized' Model May Dominate

Hughes's "midsized" entry will be HS 393, 4,000 lbs. in transfer orbit, twice capacity of HS 376, with 1-1/2 kw of power. RCA Astro was talking publicly for first time about plans for its Series 5000, which would follow logically on Ku-band bird, be prospective candidate for Intelsat VII. Satellite would be in 5,000-7,000 lb. range, and prospectively even as heavy as 10,000 lbs., according to Ed Walthall, mgr., technical division. Bird originally was to be in design stage along with RCA's Ku-band satellite, but was deferred until late-1980's; design specifics are still in planning stage, Walthall said. DBS and Ku-band services, or C- & Ku-band hybrids, will be possibility, according to U.S. manufacturers, but none endorsed European experimental concept of massive, multipurpose bird as operationally workable.

Europe's "midsized" birds, and even its larger DBS entries, are small in comparison with British Aerospace's Olympus (formerly called L-Sat) which will weigh in at 5,280 lbs. at launch, 3,200 lbs. in orbit. European Space Agency, which encouraged development of Olympus, and its makers argue that multi-purpose big bird will serve Europe when govts. come to terms with reality that economies of scale and orbital arc space will make leasing on one large satellite economically mandatory, if politically unpopular. Peter Hickman, managing dir. of BAe Space & Communications Div., foresees market for more than 150 Olympus-class craft before year 2000. As for use, ESA argues in favor of "larger and more diverse space segments" in next decade because "second generation systems for mobile and European fixed services will be required."

Eurosatellite's Rolf Arnim criticized Olympus for high development cost, said he's "not a believer in multi-mission" satellites because most European countries which will need satellite services won't be able to afford "all the extras... The challenge to satellite makers is to come up with a satellite that's within reach of a country like Switzerland, where the yes-no cost of initial investment has to be dealt with before you deal with economies of scale."

Need in future for continent will lie mostly in video services anyway, Arnim said; given growth of fiber optics, "the [number of] telecommunications satellites will stagnate or decrease." Reason for continuing need for satellites is their ability to relay mass amounts of information to many places at once; land links may take over from there to handle home shopping or other viewer response data, he said. Eurosatellite will be first on pad with operational DBS system, TV-SAT/TDF-1 for Germany & France. Actual 2-satellite system -- each with 3 channels -- is designed for launch on Ariane 2 in 1984, has launch mass of 4,400 lbs, 7-year life, 3 kw.

As prototype, which Arnim somewhat wistfully said would be better suited to U.S. market than DBS bird RCA is building for Satellite TV Corp., bird lists under firm's "heavy satellite" category, has launch mass of 4,400-5,500 lbs., 3-6 kw, could carry twice as many channels. Market opportunities are Spain, Sweden, Saudi Arabia, Argentina, Brasil, China, firm's literature suggested. Arnim said 2 types of countries ready for DBS are those where: (1) 2nd or 3rd TV channels would be very costly because no land lines are available -- lengthy country such as Norway, for example. (2) There isn't frequency room available for channel expansion, e.g., Germany.

Eurosatellite's version of "medium class" satellite is 2,200-4,000lbs., 1-2 kw, 3-axis, modular bird designed for 1/2 Ariane or shuttle. Australia, African & Arabian countries and Colombia are target markets. Appearance of future satellite will be "flatter, more stable, like a tuna can," Arnim said; 5 years from now, Europe may launch 2-3 satellites yearly. Aerospatiale's assessment of market, as expressed by Francois Turck, sales & marketing mgr. in Space Div., is that out of projected 200 satellites to be ordered world-wide over next 10 years, 2/3 will be in medium range.

It should be said that neither Germany nor France has placed firm order for 2nd TDF-type satellite; estimated cost of $60 million coupled with political and economic uncertainty may be cause for feet-dragging.

One interesting advance exhibited at salon, which promises to keep weight and thus launch costs down, was MBB/Erno's Ultra Lightweight Solar Panel (ULP) which yields around 40-50 watts per kg (compared with 27-28 watts per kg on Intelsat 5 satellite). Panel combines flexible carbon fiber blanket with stiff frame, also made of carbon fiber -- technology developed from company's advances in helicopter blades. Design is being marketed to builders of new generation of high-power DBS.

MONTREUX TV SYMPOSIUM ATTRACTS 9,500 FROM 60 COUNTRIES

MONTREUX, Switzerland -- Facilities of this small Swiss city and nearby towns were taxed to their limits this week as 13th International TV Symposium attracted 9,500 international broadcasters, 225 exhibitors and 220 reporters from 60 countries.

Star of show by far was repeated demonstrations (by invitation only) of high-definition TV put together by 6 countries under aegis of CBS's Joseph Flaherty. Six demonstrations Sun. were SRO and even as important a person as Rep. Collins (D-Ill.), member of House Telecom Subcommittee, couldn't get in. In addition to joint demonstrations (using totally Japanese technology), several manufacturers, including Sony, Panasonic, Thomson-CSF, had their own demonstrations of HDTV on exhibit floor. RCA, other U.S. manufacturers, were on floor selling PAL standard equipment.

Several European manufacturers were unhappy with very heavy Japanese presence and dominance of HDTV and its Japanese imprint. "Since we're meeting in Europe, why shouldn't our products be featured?" was kind of question heard more than once on exhibit floor.

At session on DBS in Europe, BBC's G.J. Phillips said intentions now are to start DBS transmissions in W. Germany & France in 1985, Britain & Italy in 1986, followed shortly by Sweden, Luxembourg, Switzerland & Austria. Because start of DBS is so close, "Western European countries must now be in the final decision stage if the industry is to provide receivers in time and at a reasonable cost," he said. He said EBU members have agreed that DBS transmission should use digital sound and provide up to 8 channels. "There is a good prospect that a unified EBU 625-line transmission system can be adopted," he added. He said initial technology will permit use of only 2 or 3 of available DBS channels -- although there will be differences because of prime contractors involved. Phillips saw need for "a new type of TV receiver incorporating a tuner unit for satellite as well as terrestrial TV, which will accept the signal from the outdoor dish directly."

Chief engineer of Telediffusion de France saw a need to choose between increase in quality and a reduction in costs for DBS. He said European communications satellite system (ECS) will be put into service in 1984, said that because of "constant increase" in Eurovision traffic, ECS will be unable to absorb all of increase. "For the majority of simultaneous transmissions, additional circuits will be required, and these can only be provided by terrestrial means," he said. He expected satellite system to cost about same as terrestrial delivery at start but that "in the long term, the space system is said to be less expensive."

Representatives of Radiotelevision Belgrade, Yugoslavia, reported on "satisfactory conclusion" of 5-week EBU DBS experiment conducted year ago. However, spokesman added, "at several occasions when a teletext page was displayed... the reproduced text was unusable due to strong instabilities." However, another spokesman said: "Most of the time, regular and correct reproduction of the teletext information was obtained... The overall result of teletext transmission can be considered as positive." Results also indicate necessity for further tests at edge of service area "under conditions of a greater filling of orbital positions and new technology of satellite TV receivers," Yugoslavians said.

Tsuneyoshi Narahara of Sony in Tokyo said cable is reaching only 10% of Japanese households through 31,000 systems with 3.3 million subscribers -- most systems have under 500 subscribers because authority of Ministry of Postal Services (which Narahara said has tough regulations) is required if subscriber count goes over that. Subscriber growth has averaged 10% annually for last 10 years, although it was up 17.9% in 1981. He expects rapid growth in next few years "because the major enterprises have begun active participation... and complex service with CATV became feasible due to the development of new [services] such as direct broadcast satellite, teletext and videotex." Japan will launch its first broadcast satellite (BS-2A) next Feb., BS-2B in 1985.

CHARYK FINDS MURDOCH FASCINATING

At dinner for Washington communications editors June 2, Comsat Chmn. Joseph Charyk & Pres. Irving Goldstein responded to couple of hours of formal & informal interrogation. Here are highlights:

RARC: Charyk, in conversation with small group before dinner, professed great concern about Regional Administrative Radio Conference that gets under way in Geneva June 13. Charyk endorsed idea that perhaps best result from RARC would be to defer decisions until more operational experience is gained with DBS. Indicating that real U.S. problems were with Canadians, Mexicans, Cubans and were perhaps Caribbean, rather than South America, he expressed concern that decisions to be taken in Geneva could have serious impact on both fixed & broadcast satellite services.

DBS: When question was asked about prospect of competition from Murdoch & USCI, Comsat aides scurried to haul 2 cardboard satellite antenna mock-ups into corporation's panelled Early Bird dining suite. Big one, 1.2 m, was size required by USCI & Murdoch, Goldstein said, holding up small 60-cm dish that he said would be compatible with both early entry and fully operational versions of Comsat's DBS system. Comsat officers also seemed more ready to acknowledge that they will eventually compete directly with cable. Reason, Goldstein explained: Research indicates that consumers do not want 100-plus channel service, instead will be happy with 5-6 extra channels above those available terrestrially. He indicated that for delivery of premium programming DBS could one day have ability to compete on favorable economic terms even with existing cable systems.

Murdoch: Is DBS marriage between Comsat & News International in offing? Rupert Murdoch is "a pretty impressive fellow" according to Charyk, who acknowledged in reply to our question last week that he has recently met with Australian media magnate and "wouldn't mind another opportunity to chat with him... He's a very interesting person." Charyk went out of his way to pay credit to News International's rural approach to U.S. satellite TV business, but wouldn't discuss whether he had in mind any formal relationship with Murdoch.

FCC upheld GTE Satellite's transponder lease deal with Telesat Canada for common carrier service in contiguous U.S. by denying petition for reconsideration by U.S. Satellite Bestg. At same time, FCC authorized GSAT to build & operate 14/12 GHz transmit/receive telemetry, tracking & command earth station. USSB had claimed GSat was proposing out-of-band DBS service by leasing 5 unprotected transponders on Anik C bird, reselling to U.S. Communications (formerly USTV) for distribution of video programming to small cable systems, other distribution systems and multiple and single dwellings. FCC mainly overruled USSB on grounds transmissions will be 1/10 power of DBS, meaning receive dishes must be much larger.

In related issue, FCC amended Part 2 of its rules to implement some final provisions of 1979 WARC relating to 11.7-12.2 GHz band. Commission voted to allow transponders on fixed-satellite service (FSS) birds to be used for broadcasting-satellite service (BSS) operations. Commission first addressed issue of BSS use of FSS transponders last year when it authorized GSat's Telesat deal, but it indicated then it would revisit issue. Commission also adopted rule allowing international FSS operations in 11.7-12.2 GHz band which had been

restricted to domestic and sub-regional FSS use. But it said international FSS operation will be allowed only if it places no unacceptable restraints on domestic FSS operations.

Situation at Oak is serious but not desperate, Chmn. Everitt Carter told annual meeting earlier this month at Rancho Bernardo, Cal. hq. He laid out problems -- "loss of market share in the cable TV equipment market, a severe decline in the number of subscribers to ONTV and the cumulative & continuing effect of the recession." As result, company declared $24.3 million loss in first quarter, red ink in 2nd, will lose money for year. Company still expects to participate in 1986 launch of DBS but without own satellite, Carter noting that change in plans saved company $80 million. He anticipates big DBS equipment market, including Oak's Orion encryption system and home decoders "that will be needed by the millions."

DBS Corp. Pres. Wilbur Pritchard praised Comsat for having "finally seen the light" by announcing modification of its DBS plan. Pritchard has been advocate of using only 3 satellites for national coverage rather than 4, said Comsat's decision to use 2 will conserve orbital slots, permit DBS system operators to realize major savings in system costs. Pritchard also put in word for high-power satellites for DBS, said that low-power DBS will "whet consumer demand" for high-power system yielding high-quality picture "in even the worst weather."

June 13, 1983

REGION 2 SETS OUT TO MAP BROADCASTING SATELLITE FUTURE

ITU Region 2 Administrations will start this week to do what many American satellite operators have long feared & resisted: Create detailed plan assigning orbit & spectrum for Broadcast Satellites Service (BSS) on country-by-country basis. And decision may not be limited to broadcasting satellites. Plan to be adopted at 1983 Regional Administrative Radio Conference also could set basis for future effort to allocate orbital access for other classes of satellites.

RARC 83 is scheduled to get under way in Geneva today (Mon.), will run 5 weeks, through July 15. Last week in Washington, final briefings were conducted to prepare U.S. delegation of more than 30 and "home team" of some 100 coordinators and policy experts, who will participate in one of most prepared, computerized, organizational-charted U.S. teams ever to tackle international orbital spectrum issues.

There is so much organization, in fact, that some delegation members have wondered aloud whether actual process of assigning DBS orbital slots for N. & S. America may be crushed under weight of bureaucracy. There were particular questions being asked last week about role of newly organized State Dept. office of International Communication & Information headed by Ambassador Diana Dougan, who has told both home & away team members that she will be in overall charge. Dougan's "home team," according to one official, is "3 to 4 times the size" originally recommended by staff of Abbott Washburn, Ambassador to RARC -- growth that may owe to Dougan's responsibility to inform all interested governmental agencies.

Washburn told us last week he's not personally fazed: "After all, this isn't like tinkering with existing services, as most [radio conferences] do... We're starting from ground zero." Prickly issue will be who reports to whom at time which has seen rapid expansion of powers under Dougan. Way Washburn explained it, "Circular 175" from State Dept. has authorized delegation to act within parameters of U.S. policy goals as outlined by "Scope Paper" prepared by Washburn, Dougan, approved by Senior Interagency Group.

If politically charged situation erupts, or any other circumstance causes delegation to deviate from instructions, delegation must consult State Dept. before acting, Washburn said -- all of which makes for active voice & data lines between Washington & Geneva.

U.S. objective is to keep Region 2 plan as loosely structured as possible, with as much flexibility as can be budgeted, given demands of countries in region. That may be tough, given

large demands by both Canada & U.S. (see accompanying chart). NTIA's Frank Urbany, U.S. delegation's representative on Procedures Committee, which will establish methods by which countries can vary from plan once it's established, told us plan accommodating all requests would be so rigid as to leave "very marginal" room to maneuver. To accommodate growth while protecting countries from interference, U.S. strategy is to structure plan so that 2 neighboring countries could work out any differences between them without having to convene another international conference, Urbany said.

Adding to complexity and diplomatic sensitivity of task, Mexico and other less technically advanced nations have toyed with idea of backing 6-slot allocation for each of larger developing countries, to insure their access to orbital arc if & when they're ready to claim it. U.S. ability to assert logic of its own requests, while maintaining that any "right to the sky" scheme is impractical on its face, may depend on combination of its computerized scenarios and committee leadership.

Confidence in computer program and advance planning runs high in U.S. camp. Washburn aide & delegate Leslie Taylor said: "We don't expect much to happen [on order of political jockeying] that will affect the actual work of the conference," which she and most other delegates take to be "purely technical." Most participants are long on technical background; 16 of 30 on delegation hail from private sector.

Strong private participation is evidenced not only in delegation makeup, but in leading committee assignments: Donald Jansky, Jansky Telecommunications pres., lead U.S. Planning Committee representative; John Clark, RCA Corp., Technical Committee. Others in govt.: Urbany, Procedures; Richard Shrum, international communications policy, State Dept., Budget; David Macuk, telecommunications officer in U.S. Mission in Geneva, Credentials; Louis Stephens, FCC, Editorial. Washburn will be lead representative to administrative Steering Committee. According to memo from Dougan to delegates: "Detailed position papers on all agenda issues, and likely political and extraneous issues, have been prepared for the U.S. delegation."

Haunting some private sector observers of RARC is fear that Americas could be saddled with same kind of inappropriate, wasteful orbital & spectrum plan that Europeans and Africans bargained themselves into in 1977. They say that 6 years since European/African RARC has been time of rapid technology advance, making mockery of service areas determined in 1977, saddling Europeans with satellites that may be 2-3 times more powerful than they need be. But Urbany said: "If we must have a conference, it's an appropriate time for it... As a practical matter, it's certainly advantageous to have a plan before there are systems to plan around." Washburn expressed similar sentiment: "It's a lot harder to plan around existing systems."

Home Team is led by Senior Interagency Group, coordinated by Dougan, with David Markay, acting NTIA administrator, Commerce Dept.; Mark Fowler, FCC chmn.; Donald Latham, DoD; Michael Uhlmlann, Office for Policy Development; Ronald Frankum, Reagan's deputy science advisor; Kenneth Pedersen, NASA. SIG members with "secondary interest": Geza Feketekuty, U.S. trade representative; Robert Bedell, OMB; Carnes Lord, National Security Council; Frank Shakespeare, Board for International Bestg.; Ruth Zagorin, Agency for International Development; Scott Thompson, U.S. Information Agency.

Region 2 Countries & Total Service Requirements

Country or Territory	Country Symbol	Number of Service Areas	Number of Slots	Channels Per Svc. Area
North America:				
Canada	CAN		6	32
Greenland (Denmark)	GRL	1	1	4
Mexico	MEX	4	2	36 (12, 12, 2)

(cont'd)

Country or Territory	Country Symbol	Number of Service Areas	Number of Slots	Channels Per Svc. Area
St. Pierre-Miquelon	SPM	1	1	8
USA-CONUS	USA	4	8	72
USA-Alaska	ALS	1	1(c)	72
USA-Hawaii	HAW	1	1(c)	72
Central America:				
Belize	HNB(a,b)	1	1	4
Costa Rica	CTR	1(e)	1(e)	(-)
El Salvador	SLV	1(e)	1(e)	(-)
Guatemala	GTM	1(e)	1(e)	(-)
Honduras	HND	1(e)	1(e)	(-)
Nicaragua	NCG	1(e)	1(e)	(-)
Panama	PNR	1(e)	1(e)	(-)
Western Caribbean:				
Bahamas	BAH	1(e)	1(e)	(-)
Bermuda	BER	1	1	4
Br. West Indies	IOB	6	3	4
Cuba	CUB	1	1	6
Dominican Republic	DOM	1(e)	1(e)	(-)
Haiti	HTI	1	1	5
Jamaica	JMC	1	1	5
Puerto Rico	PTR	1	1(c)	(-)
Virgin Islands	VIR	1	1(c)	(-)
E. Caribbean:				
Antigua	ATG(c)	1(e)	1(e)	(-)
Barbados	BRB	1(e)	1(e)	(-)
Dominica	DMA(a)	1(e)	1(e)	(-)
Guadaloupe (Fr.)	GDL	(--)	(--)	(-)
Martinique (Fr.)	MRT	(--)	(--)	(-)
Neth. Antilles (Neth.)	ATN	2	1	4
St. Lucia	LCA(a)	1(e)	1(d,e)	(-)
St. Vincent-Grenadines	GRD(a)	1(e)	1(e)	(-)
Trinidad-Tobago	TRD	1(e)	1(e)	(-)
South America:				
Argentina	ARG	3	1	3,12,9
Bolivia	BOL	1(e)	1(e)	(-)
Brazil	B	5	5	18
Chile	CHL	4(e)	1(e)	5,3,1
Colombia	CLM	1	1	4
Equador	EQA	2	(-)	1,7
Falkland Isl. (U.K.)	FLK	1	1	4
French Guiana	GUF	1	1	8
Guyana	GUB	2	2	2,4
Paraguay	PRG	1	1	18
Peru	PRU	1	1	4
Surinam	SUR	1(e)	1(e)	(-)
Uruguay	URG	1	1	18
Venezuela	VEN	2	1	18,2

(a)Not an ITU member. (b)Requirements submitted by U.K.(c)Same as one of CONUS slots. (d)Same as one of West Indies slots. (e)Service area requirements estimated in whole or in part by IFRB in absence of complete specification by Administration.

CBS, HBO, 2 MOVIE STUDIOS, ENTER U.K. CABLE PROGRAM MARKET

Columbia Pictures, HBO, CBS and 20th Century Fox announced agreement last week to join with Goldcrest Films & TV to provide U.K. cable operators with programming. Main goal is development of pay movie channel similar to HBO, with first-run features and original entertainment. Ad-supported services may follow. Transponder on Intelsat V leased from Mercury Communications is expected to be used for delivery.

Agreement stipulates 51% ownership by Goldcrest with remainder divided equally among 4 American partners. Amount of investment wasn't disclosed. "The investment required is not so much in the initial outlay as it is in the working investment capital over the long run," Goldcrest Chmn. James Lee told us. "We will lose money for the first 3 years, maybe even the first 4. We're looking to a break-even point in the 5th year." Losses would be justified, Lee said, by position of "pioneer."

"We recognize from the American experience that getting in first is very important," Lee added. "You have to spend money to get into a position of strength." Launch will require 200,000-300,000 subscribers willing to spend up to $15 monthly for premium service, which partners said will debut in early 1984. Lee projected 600,000 subscribers by 2nd quarter 1984, 1.2 million subscribers by year's end. First customers will come from upgraded 4-channel cable systems already in place. Talks have begun with existing and prospective cable operators, Lee said. Transponder has 24-hour, 2-channel capacity, but parameters of channel haven't been decided yet. "We expect the basic format will not be dissimilar to the basic format in the U.S. -- like HBO," he said. Partners have discussed music channel and all-news offering, but "most advertisers here are very leery of the size of cable TV advertising," Lee said. Yorkshire TV, of which Goldcrest is single largest shareholder and which has already proposed music video channel for U.K., is likely candidate for partner in music channel. Goldcrest is only British shareholder at moment, and understanding is that some portion of its shares will be slated for other British companies, possibly Yorkshire TV. Move to add others isn't yet strong, Lee said. Other possible British partners might be DBS group or another partner with clear contribution to make to service.

American CEO, most likely plucked from current pay-TV ranks, will be named shortly, and company will have own management and board of directors with British in majority. American, rather than British CEO, was most likely to head venture because of greater experience, Lee explained. "We better have someone who's jolly good, because it's very easy for someone to make mistakes in this business. We're hoping we can learn from some of America's mistakes."

FCC CALLS FOR INDUSTRY ADVICE ON DBS STANDARDS

After resolving reservations of some commissioners and industry, FCC will send General Services Administration proposal to establish Industry Advisory Committee on Technical Standards for DBS.

Commission declined to set standards for DBS transmitting or receiving equipment last year before awarding DBS licenses, citing both lack of technical information and industry's greater resources to deal with system design. Since then, many in industry have met informally to explore formation of DBS trade association, which might set own technical parameters. Some "early-entry" systems are being launched in fixed-service satellite band, but eventual parking spaces for DBS systems will be co-located, meaning that consumer could receive channels of different systems with same equipment if technical standards are compatible.

Explaining reasons for recommendation, FCC said it wouldn't be inconsistent to provide opportunity for industry to advise it further on desirability of technical standards. Committee's basic objectives would be to: (1) Advise FCC on facts, circumstances & considerations for or against imposition of standardized technical requirements, in addition to those established at Regional Administrative Radio Conference in Geneva, which will start Mon. (2) Develop & submit recommendations on specific, desirable standards. "This can't be taken as a decision to

set standards, just to examine what they might be if they're deemed necessary," Commission source said. If GSA approves committee, meeting times and places will be announced.

Upper limits to commercial satellite size will be set by efforts to maintain dual compatibility with both shuttle and expendable launch vehicles, NASA communications experts say. Conclusions of Robert Lovell, NASA Communications Dir., and Samuel Fordyce, recently retired chief engineer in division, are published in paper titled "A Figure of Merit for Competing Communications Satellite Designs." Only projected Intelsat designs will grow in weight to limits of shuttle capacity, paper said. Prediction was drawn by figuring in-orbit costs per transponder year (for equivalent 36 MHz transponder). For domestic satellite, cost per transponder per year in orbit averages $350,000. DBS transponder cost for same period could run as high as $2 million. "The market for these satellites is approaching $3 billion per year... New standard designs are likely to evolve" in order to keep transponder costs in orbit down, report said. "Experience has shown that launch vehicles account for nearly one half of the on-orbit cost of communications satellites... It follows that new launch vehicles will have a significant impact on the future design of communications satellites." Ariane, shuttle and "probable private enterprise versions of Deltas, Atlas Centaur & Titan families will provide great flexibility and opportunities for new designs." At same time, push to minimize launch costs "may drive some of the new launch vehicle entries out of the business if satellite manufacturers design and standardize around a competing stage."

To no one's surprise, Indian Govt. has awarded Ford Aerospace & Communications Corp. contract to build 3rd in its series of multi-purpose communications, DBS & weather satellites. Contract for Insat 1C is valued at $58 million; Ford built first 2 Insat birds under previous contract with India's Space Dept; first bird failed in orbit shortly after launch, 2nd is anticipated to fly shuttle mission 8 in Aug. Satellite will permit nationwide distribution of telecommunications & TV to Indian towns & villages, company said.

June 20, 1983

FIRST EUTELSAT IN TRANSFER ORBIT AFTER PERFECT ARIANE LAUNCH

Engineers were preparing to circularize orbit of first ECS spacecraft for Eutelsat, as we went to press. Satellite, first operational European communications satellite, was in predicted transfer orbit following textbook launch by Ariane L6 from Kourou,French Guiana early June 16.

Launch was celebrated with champagne at European Space Agency & Arianespace, where executives were jubilant at apparent success in overcoming turbo pump problem that caused 5th Ariane to deposit Marecs-B and Sirio 2 into Atlantic. With jokes about Europe's rocket-powered submarine now apparently behind them, Ariane marketeers expect that they will encounter less skepticism as they seek to promote their system as viable alternative to NASA's shuttle.

Ariane's record now is 4 successes, 2 failures. But Arianespace officials told us they consider that slate has been wiped clean by latest triumph, that there's now no reason to consider Ariane system other than fully proven. Also proven, they said, is SYLDA dual-launch system, which inserted amateur radio satellite (Oscar 10) into orbit along with ECS-1.

Although they have recently suffered blow with Western Union's cancellation of its Westar 6 launch reservation -- apparently so that this satellite can be launched somewhat sooner by shuttle -- Ariane salesmen say their order book otherwise is holding firm, with contracts outstanding including 2 launches for GTE Spacenet, 2 for GTE Satellite Corp., 2 for DBS Corp. Arianespace also hopes to launch at least one satellite for Satellite TV Corp. And, of course, success of L6 couldn't have come at better time as concerns Ariane's bid to launch Intelsat VI spacecraft; Board of Governors meeting at which some selection was scheduled to be made was conducted in Washington last week.

Although most publicity surrounding L6 success was focused on launcher itself, savvy Europeans were interested more in significance of its payload. ECS-1, primed by British Aerospace, has prospect of dramatically changing European perceptions about possibilities inherent in fixed satellite service. Intended to replace aged OTS-2 pre-operational satellite, ECS-1 offers first satellite with commercially viable payload for Europe, comprising dozen 12-GHz transponders. Insertion of ECS-1 into its operational service position will immediately relieve worries of Satellite TV PLC, which has desperately needed satellite to replace its current OTS-2 service, also will provide green light to other prospective networkers to begin service to cable systems. It will take 21 days after apogee kick motor firing, scheduled for June 17, for ECS-1 to reach final position. After arriving on station, satellite will go through commissioning phase of about 55 days, after which it will be handed over to Eutelsat.

In experiment described as "opposite of DBS," Schlumberger Technology Corp., unit of worldwide construction & oil services giant, will use transponder on SBS-2 to test transmission of data & occasional voice from very small, 1.2-m terminals to 7.7-m base station. Schlumberger has asked FCC for authority to construct up to 500 small terminals, 19 base stations. This phase of project would start in about 1986, following 3-5 month SBS pilot program starting Jan.-Feb. 1984. Value of experimental phase to SBS is about $600,000, we were told. Schlumberger (pronounced shlum-ber-jay) told FCC it proposes to build private, non-common carrier communications system providing high-speed data & ancillary voice services to oil & gas exploration industries, featuring facility to transmit measurements of underground formations.

Study group at Region 2 Administrative Radio Conference, charged with deciding where to divide spectrum between fixed satellite service and DBS, selected 12.2 GHz as dividing line, position U.S. supported. However, in move that may cause dissension later on, decision has been conditioned on whether every country represented at RARC is awarded at least 4 channels in orbit. "That's not likely to happen," said one FCC insider, but "it's in the realm of possibility. What it means is that after all the orbital space is awarded, the decision [to divide arc at 12.2] will be revisited. "Conference, which is awarding DBS orbital slots for Americas, started June 13, will continue in Geneva until July 15.

Nippon Satellite Information (N-SAT) and Japan Satellite Bcstg. (J-SAT) plan to offer first DBS services in Japan, according to Japanese Economic Journal. Companies applied with Japanese PTT to use BS-3 satellite to be launched by Japanese govt. in 1989. Application proposes that DBS services be implemented throughout country by mid-1989 using one of 3-4 BS-3 channels. Japan Bcstg. Corp. (NHK) is expecting to use 2 channels, leaving one or 2 for private use. Stereo radio, hybrid multiplex teletext, facsimile and other services would be offered as well as TV. DBS has broad support among business community in Japan and competition to provide services is expected to be intense.

June 27, 1983

DBS FIRMS TALK MERGER, PLAN STRATEGY

United Satellite Communications Inc. (USCI), one of 3 firms hoping to launch DBS system next fall, initiated merger talks with Satellite TV Corp., STC sources confirmed privately. There's no indication that talks have been productive, but STC PR representatives suddenly have stopped saying disparaging things about USCI competitors. In meantime, USCI PR firm Ruder, Finn & Rofman has dropped USCI account, one source saying: "The client doesn't talk to us anymore."

Both services are aimed initially at non-cabled markets in northeast. USCI is divided between GI's 14% interest, Prudential Insurance's minority interest with option to purchase up to 40% and private investor Franchesco Galesi. Any decision on change in USCI would be reached by all 3, General Instrument (GI) Business Development Group Vp Hal Krisbergh told us: "All partners are involved equally -- any movement would be a joint one," he said.

Krisbergh hinted that agreement, if reached, may be only few weeks away. Possibilities include swap of USCI transponders on Anik C for STC supplying marketing & programming support services to USCI, which hasn't yet committed itself to any entity for those areas. (GI isn't committed exclusively to USCI, either, says it plans to do double anticipated $600 million equipment manufacturing deal with USCI in sales to alternative systems, foreign DBS services.)

Insiders note that Comsat had initially considered medium power DBS some years ago when first exploring DBS options, but that high-power advocates had won out in intra-company struggle. Decision now will cost STC "$40 million just to deal with USCI's early entry," one source said. High-powered DBS now appears to some observers as white elephant, though Comsat says it remains committed to plans. Of 8 FCC licensees approved for service last year, only STC and Hubbard Bcstg.'s U.S. Satellite Bcstg. are still actively pursuing plan, and Hubbard may lack venture capital to make fall deadline set by FCC for completion of financing plans for services, GI sources said.

Both USCI and STC are assembling distribution & programming for fall launches. Group W Mktg. Vp Ron Castell, impresario of new cable services such as Nashville Network and Satellite News Channel, will arrive at STC as mktg. vp July 1. USCI Pres. Nathanial Kwit, hired for his contacts with movie business, is said to spend "60-70%" of his time haggling with studios over programming for 2 movie channels of service. One channel will be programmed directly by USCI, but group is reportedly looking for 2nd entity to program 2nd movie channel. Non-movie services remain equally vague.

Direct affiliation with any one studio is unlikely in view of recent Justice Dept. decisions regarding studio mergers. Showtime has been approached by DBS services, but Pres. Mike Weinblatt said company isn't interested at present. HBO also claims commitment to cable operators, though all cofinanced and made-for-pay films include DBS rights, and Pres. Frank Biondi has made no secret of HBO's burgeoning role as film distributor to any available media.

Retail distribution of dishes with Sears or another large chain, as originally suggested, seems less likely. Monthly rental scheme, by phone, or cable converters for dishes that will cost $500 when services debut, is more likely scenario. Cable operators and BOCs are both approaching DBS services for chance to distribute programming in their areas. Interest in DBS was strong from cable operators roaming NCTA convention floor, according to GI salespeople there.

Local phone companies are also "very eager to be involved," Krisbergh told us. "They're looking for new sources of revenues, they have the distribution facilities, the experience with installation, the technical experience." Final decision may be made on region-by-region basis, Krisbergh suggested, and include mix.

July 4, 1983

TURNER NEGOTIATING TO SUPPLY DBS INTERESTS WITH PROGRAMMING

"I don't think cable has the slightest thing to fear from DBS," Turner Bcstg. Pres. Ted Turner said at N.Y. TV Academy lunch June 29, thought he repeated next day in speech to National Press Club in Washington. "It will make everyone have the same sort of thing available." He told Press Club TBS is "negotiating with some DBS [interests] to supply programming."

Cable News Network could be shown with little problem on United Satellite Communications, Turner told N.Y. group, but WTBS Atlanta tie presents "very complicated" legal questions, requiring that DBS service be ruled as common carrier in some capacity. WTBS Pres. Robert Wussler claimed Comsat-USCI merger was likely to go through. Announcement on programming lineup with WTBS's involvement with DBS would probably arrive in fall, he said.

In N.Y. & Washington, Turner criticized Cable Consortium for Information image-building effort, saying he likely won't be supporting it because of legal battle between CNN and

Satellite News Channel, whose co-parent is Group W. "I've been working to improve cable's image for the last 10 years. The reason I haven't joined is because [Group W Bcst. & Cable Pres. Daniel] Ritchie, who's been in the business less than 2 years, is at war with me." He said he "didn't like the way they put the thing together -- they didn't ask me about it, and they picked Ritchie to head the thing up," adding that "it's not the money -- they only want $35,000." Decision, however, isn't final.

Turner is angry with Playboy over interview with him in latest issue, saying it was written by "vindictive reporter seeking to make a name for himself." At Press Club, he read statement charging that interview "contains inaccurate statements, half-truths and distortions." Turner said he's "sorry that [his] candor with this reporter has resulted in... misrepresentations." Reporter's repeated questions about new soap opera "Catlins" on WTBS, intimating that it showed Turner was offering programming on same level as networks, prompted Turner during interview to smash reporter's tape recorder.

July 11, 1983

BILATERAL RARC TALKS BETWEEN U.S. & CANADA SPLINTER

U.S. & Canada have broken off bilateral talks at Regional Administrative Radio Conference in Geneva. Two countries have attempted since months before conference to come to some kind of understanding on orbital plan setting standards for DBS in Western Hemisphere. Canadian spokesman said countries, in breaking off attempts to harmonize their plans, "agreed to disagree." Both will now seek support for their individual plans from other countries at RARC.

Biggest area of disagreement turned on power level limits for systems. Canada, with eye to protecting its interim, low-power service already in place, wanted power flux density value of -109 dbw. U.S., more technically advanced than most countries at RARC, is looking ahead to possible uses for high definition TV (HDTV) and multiplex analog component systems (MAC), wanted standard set at higher -105 dbw level. Compromise was reached in technical standards committee of -107 dbw, but Americans think that's too low.

No compromise has been reached over channel capacity in service areas either. U.S. requested 36 channels for each of 7 service areas; Canada wanted it limited to 32. U.S. may see room to maneuver on this point, but will hold firm on other suggestion to decrease orbital spacing between slots from 10 to 7 degrees. Given higher power levels U.S. wants, U.S. delegates to RARC have said that 7 degrees is too close for comfort.

Meanwhile, planning committee hoped to deliver final spacing plan to Conference by July 8. First draft was distributed at July 4 plenary session but "nobody liked it very much," according to State Dept. spokesman. That plan was sent to technical committee for "modifications of the technical parameters." Planning committee Chmn. Philip Cross of Jamaica called for more communication between committee members -- anything to relieve what has been referred to as "excessive requirements" and "inflexibility on technical [matters]" on part of many countries. Cross was backed by Conference Chmn. Louis Valencia of Mexico. Requests by countries were within technical reach before Conference began, but hours before deadline for filing requests several countries upped their antes, requesting some 82% more channels than were earlier on file.

Advanced TV Systems Committee added 28 members at its first official business meeting July 6 in Washington. Its 5 charter members are NAB, NCTA, IEEE, SMPTE & EIA. Offshoot of Joint Committee for Intersociety Coordination, group is trying to develop voluntary industry standards for HDTV, other innovations and new technologies. Among new members: ABC, Ampex, Assn. of Maximum Service Telecasters, CBS, Cox Communications, DBS Corp., GE, HBO, N.A. Philips, RCA Commercial Communications Systems, RCA Consumer Electronics, Satellite TV Corp., Sony Bcstg. Products, Sony Corp. of America, Toshiba America, Westinghouse Bcst. & Cable, Zenith. Chmn. William Henry said he expects 40-50 additional

members to join in next couple of months. Next meeting will be in latter part of Aug. By its Sept. meeting, ATSC hopes to set up subgroups which will work on various technical issues.

Galaxy I's solar panels dropped open July 4, last delicate step before new cable bird becomes operational in early to mid-Aug. Hughes's "shopping center" satellite has owners for 18 of its 24 transponders: HBO, 6; Group W Bestg. & Cable, 4; Times Mirror Satellite Programming, 2; Viacom International, 2; Turner Bestg. System, 2; SIN International TV, 2. Reports that bird will be used by HBO for some kind of DBS service haven't been confirmed, but sources tell us that some "intermediate" kind of service is in planning stages. Dish wouldn't be small enough to mount on average house, but might be somewhere between DBS & SMATV. DBS-style service might be option in HBO's future on higher-powered, Ku-band bird, sources said.

July 18, 1983

U.S. DBS DELEGATION DECLARES VICTORY, SAYS RARC WASN'T TOO BAD AFTER ALL

GENEVA -- After making worried noises in final stretch, U.S. delegates to RARC 83 are coming home sounding fairly cheerful. Delegates asserted that U.S. got what it came for: "It's very tight... but it meets virtually all the requirements" of U.S. DBS interim plans, Washburn said of approved plan. U.S. officials were pleased not only with capacity afforded U.S., but with flexibility of plan compared with that of DBS scheme for regions 1 & 3. "We think it's much better than the 1977 plan," Washburn aide Kalmann Schaefer of FCC said, going on to explain that U.S. DBS systems will have great leeway in planning their systems within constraints of plan adopted in Geneva.

Schaefer said U.S. had wanted scheme with 4 service areas roughly corresponding to time zones in continental U.S. It got that and more. Under plan, companies can launch systems which can either split service into 4 roughly equal parts, or cut country in half and point their satellite beams at full half of country. Late last week, American delegation was still trying to determine whether plan also allowed full Conus coverage -- contingency not possible given current satellite capacity and power that would be needed, but possibility given rate of development in satellite technology.

That very thinking illustrates difference between U.S. and many less technologically sophisticated countries at conference -- difference which led to heated debates in Plenary Session on how much power was either technically possible or desirable to send satellite signal to rooftop dish. U.S. argued at every turn for what seems feasible for U.S. by end of decade and possible 20 years hence but which appears to be only far distant dream for countries like Guyana. Frustration for American delegation was not only that such administrations were alleging U.S. spectrum imperialism, but that each carried equal vote with that of U.S., Canada & Mexico, 3 largest delegations represented.

Reservation

Canada did better than U.S. in getting desirable slots and power levels because of its "rapport" with such countries, one U.S. delegate said. Failing was clearest in U.S. loss to Canada & Brazil over issue of power flux density -- amount of power received from satellite at earth station. Higher-powered satellites will come into use in U.S. by end of decade anyway, because U.S. intends to go ahead with its plans despite ruling of convention in favor of lower power, and Washburn predicted other administrations such as Mexico would do the same. Making "reservation" on that point was less desirable than "winning" point, but Schaefer maintained that it wasn't "win-loss situation."

"It's like an orchestra with one player being out of tune," Schaefer said, "You can still play, but it won't sound as nice as if everyone were playing the same thing." Technically, disagreement on this point means that U.S. eventually will be broadcasting in DBS band at around 2 dbw (decibel watts) higher than its Canadian neighbors. (Standard adopted was -107 dbw versus U.S.-proposed -105 dbw.) Bilateral negotiations with Canada to calm fears of

Canadians about spillover have already begun, Schaefer said. Another Washburn aide, Leslie Taylor, said that interference from higher U.S. beam probably wouldn't ever become problem because advancing technology would be able to lessen power levels at periphery of beam by time higher-powered systems are in orbit.

Dishes

U.S. delegation tried to minimize significance of one other loss at conference which may seem more consequential to dish-makers than to diplomats. Despite full scale dish diagrams and life-sized model of Alcoa-NEC antenna on display at U.S. mission, conference adopted symmetrical feed antenna instead of "state of the art" offset reddish U.S. proposed.

Difference in 2 dishes, according to engineers here, is that offset antenna has better sidelobe protection (is better able to screen out unwanted interference). Antenna makers in U.S. had hoped for smaller, more advanced antenna to become the norm to make DBS cheaper for consumers (smaller dish would supposedly cost less). Manufacturers still will have U.S. and regional market for their offset wares, Washburn asserted, simply because they are more advanced. "We hope that some day the customer will be able to walk into a Sears Roebuck store and carry his dish home on his arm, then put it on his windowsill or wherever," Washburn said. Concern of other countries here at conference was that they would be able to manufacture their own dishes domestically, which they were afraid they couldn't with more advanced dish, Schaefer said: "That doesn't mean they won't buy some abroad if they think it's better."

There are other plusses & minuses in plan for U.S. It has one slot so far east that, twice yearly for around 22 days, N.Y. and other eastern areas served by its beam won't be able to get reception any later than around 10:15 p.m. America's far western slot (at 175 degrees west) will mean that L.A. never has to worry about its "eclipse protection" but spells trouble for northeastern Montana where the angle at which beam is received by antenna will be something like 5 degrees. (Minimum angle U.S. requested was 20-40 degrees.)

Final scheme was being rushed through last computer run at presstime, so exact details on channels obtained by some countries weren't available, but here's how technical plan looked after it emerged from planning committee earlier in week:

Specification	U.S. Objective	RARC Decision
Frequency	12.2-12.7 GHz	Same
Carrier-to-noise ratio	14 dB	Same
Protection ratio	25 dB	28 dB
Receive antenna G/T	8 dB/K	10 dB/K
Receive antenna diameter	0.9 m	1.0 m
Satellite spacing	10 degrees	9 degrees except U.S., Canada: 10 degrees
Power flux density	-105 dBW	-107 dBW
Channels	36	32
Receiver reference	Offset	Symmetrical
Satellite transmit antenna	Fast rolloff	Elliptical beam with Fast rolloff if needed
Uplink frequency	17.3-17.8 GHz	Same
Uplink C/N	26 dB	No more than 0.5 dB of composite C/N
Feeder antenna	5 m	Same
Uplink power	500 watts	1,000 watts

Taken as a whole, there was some mighty big planning at RARC but, with exception of U.S. & Canada, there probably won't be any DBS operators for a while. Most countries talking even optimistically about DBS don't foresee launching any satellites until after 1990. Those systems

that will emerge between now & then will be interim low power plants built well within limits RARC scheme was thought needed to prescribe. But plans with good prospects were born here, too. Caribbean plan came as surprise to U.S. delegation, which made aborted attempt to be part of consortium system. Irony here, as far as planning goes, is that countries like Jamaica & Trinidad will be afforded as many slots as whole of eastern U.S., though chances that these countries will launch own systems apart from joint Caribbean effort are slim.

Andean system appears good prospect to launch after 1990. Sixteen channels beamed down on 5 countries "will be able to unify us like no other thing" can, Venezuelan delegate said. Andean countries aren't shopping for satellite yet though and "there is much coordination among our countries" to come.

Who Gets Slots

Slots, each with 32 channel capacity, line up in following way: Those at 175 & 166 degrees west will serve Pacific time zone. Two beams from each Pacific slot will be able to broadcast to Alaska & Hawaii. Pacific also can be reached by satellites in service area designated for "western half" of country, served by slots at 157 & 148 degrees west. Together, Pacific & western slots make up 2 of U.S.'s 4 service areas.

Eastern half of country also is split, with slots at 119, 110, 101 & 61.5 degrees west. As in Pacific & western zones, one slot can service either full half or one quarter of country. Of course, more than one satellite can be placed in each slot, limited only by restriction that they be at least 0.4 degrees apart. (Minimum separation between any 2 satellites from different countries is 0.8 degrees.)

Canadians Satisfied

Canadian delegation head William Montgomery said: "In terms of our requirements as a balance with a regionwide plan, I'm very happy with it... In an ideal plan we might have had something better, but in a regional system you have to accommodate everyone as well as possible." It will be tough for Canadians to explain to regional govts. why easternmost coverage area won't get eclipse protection "while the folks in Manitoba can watch TV all night," Montgomery said, "but the U.S. has the same problem."

Canadian plan consists of 6 slots and 6 service areas. Slots are at 138, 129, 91, 82, 72.5 & 70.5 degrees west. Each beam will have 32 channels, same afforded Canadian interim system. Montgomery said planning for this interim system will be complete in next 2-3 years, depending on pace of economic recovery. Interim system will consist of 3 service areas receiving 32 channels each, with beams that can be split, giving each of eventual service areas 16 channels apiece.

Mexican 3rd Force

Mexico came away with 4 slots in draft plan, 2 more than it requested originally. Caribbean countries got several individual slots, but system considered most likely to launch is consortium of Caribbean countries with slot at or around 92.5 west. Each of 16 countries represented in Caribbean group will have access to one uplink and each will receive all 16 channels transmitted by its Caribbean neighbors. Caribbean originally had proposed one large beam to cover entire area, but Cuba fell smack dab in the middle of that scheme, so plan was revised.

The Rest

Ronald Case, chief engineer for Guyana Telecommunication Corp., explained that Caribbean beams are viewed as "a package" by members of group. Whole system will be used by group largely for educational purposes and "cultural programming... we share a common heritage, you know," Case said. Chances are, he added, that Caribbean group will start off with just one satellite -- project that may precede that region's plans for domestic fixed satellite

service. Given economic advantages of consortium, it seems reasonable to assume that single satellite system will be used, Case said. Drawback to satellite sharing might be prospect of censorship by any one country of another's programming, but he said that also was possibility with multiple satellites.

Another concern seemed to be that of spillover from U.S.: "We have that problem now from lower powered fixed satellites," Case said. He wouldn't comment on some other technical issues, such as what might happen if Jamaica wanted to construct CATV systems while Bermuda took more individual home dish approach except to say: "I think the majority of countries will go for individual homes." In many respects, "the technology has gone perhaps faster than the administrations in these countries... We will have to see what happens," Case said.

Brazil, too, finds itself propelled into advanced technological era by prospects of RARC plan. Paulo Balduino, member of Brazilian delegation, said chances were good that his country would leap straight from conventional TV to DBS, without passing cable in between. Some kind of mix also is possible, but plans for cabling country have been stalled awaiting word from RARC, and Balduino thinks that plan will encourage govt. to go ahead with plans for direct to home broadcasting. Consumer also will have vote on system: "In the cities," Balduino said, "people may have a choice."

Brazil hopes that, if consumer chooses DBS, he will get his equipment locally -- one reason why Brazil supported lower power flux density level than U.S. Balduino noted that industrial imperialism of U.S. was a deciding factor in Brazil's vote. Country will have 5 slots with 5 service areas, each having range of channel capacity, highest being 16.

Computers

Lead players at RARC were 3 computers operated by ITU's International Frequency Registration Board (IFRB), U.S. & Canadian delegations. U.S. delegation head Abbott Washburn went so far as to attribute success of conference not only to cooperation of countries involved but to capacity of computers quickly to assimilate myriad of fluctuating detail necessary to come up with regional scheme.

Ironically, it was computer that held up confirmation of plan for at least 2 days while engineers struggled to make room for massive orbital outline. Orbital positions, elevation angles, eclipse protection, number of slots per service area -- these were often obscure variables pumped into conference's electronic brains in hopes something workable would emerge.

USSB SAYS IT'S NOT DETERRED BY EARLY ENTRY DBS RIVALS

Claiming high-power DBS will be "mass market," U.S. Satellite Bcstg. Exec. Vp Robert Fountain, ex-ABC, told TV Academy lunch in N.Y. last week that early-entry DBS services proposed by Comsat subsidiary Satellite TV Corp. and United Satellite Communications Inc. will be limited in many ways and presented "no competition" to 200-w satellite delivery service proposed for 1986. Size of low-power dishes -- 4-6 ft. as opposed to 2 ft. permitted by high power -- lack of national exposure and limited number of channels were given as reasons. As for advocacy of low-power DBS by high-power licensee Comsat, Fountain pronounced himself "rather pleased" with Comsat's decision, said that by preparing public to accept home dishes, Comsat's decision would "move DBS ahead 2 years."

Currently most active of FCC-approved DBS licensees, of which there are now 8, USSB's scenario, as detailed by Fountain, includes: (1) Free channel with network-like programming -- $680 million worth in first year alone -- to be broadcast by independent stations as well as being received by homes with dishes. (2) All-news, 24-hour channel, also supported by ads and free to dish-owners. USSB is currently looking for "major news partner" for this effort. (3) Subscription & pay-per-view channel with individual addressability capability. Last category is Fountain's contribution, he told us -- Hubbard Bcstg. Pres. Stanley Hubbard began USSB

adamantly opposed to pay TV in any form. Direct-to-home addressability makes for "very attractive, narrowcast audience," Fountain maintained.

Financing of $300 million project has "just started," Fountain told us. Discussions with "some rather well-known names in the news" are under way in search for partner for news business, Fountain said, though none is in cable. "Major Fortune 500 manufacturer" was another potential partner in venture, with announcement to be made by Sept., he added.

FCC license stipulates "significant progress" will have to be made on DBS projects by Nov. 1983 or approval can be withdrawn. However, Fountain said due to delays of DBS regulation, including Regional Administrative Radio Conference concluding this week, it's "unlikely" FCC will enforce limitation. "Informally, we've been led to believe that there will be extensions given," he noted.

High-power DBS would be "lethal" to cable systems because of cable's "severe economics," Fountain predicted. Cable operators & programmers would have "very insignificant role" in USSB, he said, emphasizing original programming would be most important -- not duplication of cable programming, as other early entry DBS systems are indicating. Network role in high-power distribution seems likely, according to Fountain, point which presence of ABC-TV Network Pres. James Duffy at lunch would seem to corroborate. "We just came to learn," Duffy said. Hubbard's KTSP-TV St. Paul is ABC affiliate.

July 25, 1983

GENEVA DBS CONFERENCE: WHO REALLY WON?

On balance, U.S. wins & losses at Geneva DBS conference add up to workable but not optimal environment for broadcast satellites. Result of conference also shows U.S. can work within framework of ITU to achieve "a flexible, workable result," according to U.S. DBS Ambassador Abbott Washburn, wrapping up results of 5-week orbital planning exercise.

As delegates left Geneva, impression among some was that Canadians had done well -- better than Americans. But in talking to Canadians, we got different impression. Canadian delegate who didn't want to be named claimed that most desirable portion of arc for serving N. America lay between 100 and 120 or 125 degrees west. "Only the U.S. can lay claim to those slots; neither Canada or Mexico have a single beam within that range," delegate said. "And it isn't that we didn't try -- the U.S. wouldn't budge on that part of the arc."

Canadian went on to describe many of the technical compromises reached between U.S. and Canada as "a dog's breakfast... We had technical justification for our numbers and they had technical justification for theirs. I wouldn't want to look too closely at what went into those final calculations."

U.S. Claims Success

"We feel very happy with what we came back with," Washburn said at first public briefing since team's return. At State Dept. meeting with reporters last week, Washburn said orbital plan set by countries in Region 2 "amply met" needs U.S. outlined for its DBS applicants and would "allow substantial room to grow in the future."

To put U.S. allotments in perspective, Washburn cited industry/govt. committee report in preparation for RARC as predicting U.S. would need between 68 and 215 channels by end of century: "We've come home from Geneva with 256," or 32 in each of 8 service areas. Washburn qualified his optimism by listing some "less than desirable" characteristics of plan. U.S. got number of slots it asked for -- 8, largest number for any country in hemisphere -- but eastern most satellite parking space is too far east of N.Y. to be of much use.

At 61.5 degrees west, U.S.'s 8th slot will be blacked out by its position behind earth twice yearly. U.S. analyst called slot "useless economically because no one will want to put a bird up knowing that they would start a movie at 9 and have it over at 9:30." "We're calling that our spare," Washburn said, adding that future satellites may be able to make use of slot. Eight DBS systems already have been approved by FCC, and another 3 are pending; Washburn predicted these too would get nod from FCC, but said those 11 systems would probably all apply for and receive "choice locations" near center of U.S. arc.

Westernmost slots (175 & 166 degrees west) were intended to be used for Pacific & Mountain time zones, now will cover only Pacific, Washburn added. But western most slot wasn't too far out to be considered by Satellite TV Corp. and Direct Bestg. Corp. in their original applications to FCC. U.S. losses on power flux density issue (power transmitted from satellite) and polarization were met with U.S. "reservations" -- U.S. withdrawal from those parts of agreement.

It Isn't Over Yet...

U.S. refusal to be bound by objectionable clauses in RARC Final Acts opens it up to whole series of negotiations with Canada and possibly Mexico. (It's unclear whether Mexico will adopt same power levels as U.S.; it also took reservation to levels adopted by conference, but didn't specify what levels it would use.) Canada had been considering counter-reservation to U.S. position because of effect different American power levels might have on Canadian interim systems. Bilateral negotiations have already begun on this matter, however, so Canadians were silent.

U.S. team seemed confident that agreement would be reached with Canada before interference problems develop. Washburn aide Leslie Taylor said: "It's really hard to envision a battle" so intense with Canada that no compromise could be worked out. It's to each country's interest to work out problems between them because, Washburn said, to do otherwise and ignore international agreements altogether "would be total chaos."

Laverne & Shirley in Gulag?

One area in which U.S. can almost certainly expect to have coordination problems is with its Alaska beam. Soviet delegate to ITU wrote RARC conference head complaining of potential for spillover into northeast U.S.S.R. from U.S. beam, said interference would have to be eliminated before beam could be turned on. FCC delegate to RARC said of Soviets: "It's probably in their interest to be as difficult as possible about it... We may have to make some concessions" on power levels up north.

A little spillover is expected, but won't cause too many problems, Washburn said. Fla., for example, probably will get Cuban TV and vice versa. Since most channels will be for individual country's cultural programming, Washburn said he couldn't imagine that many people would be interested in tuning in anyway.

'Political' Issues

Ambassador Diana Dougan, coordinator for international communications policy, praised RARC as having few of the political hassles which have beset ITU forums in recent years. Only such issues which reared their heads at conference were Argentina's claim for slot over Falklands, and Colombia's & Ecuador's claims to sovereignty over their air space. Falklands debate dragged on for hours with final resolution coming in form of footnote to original requests stating Argentina's request for slot. Air space issue didn't take as much time on floor, was settled, in mind of Colombians at least, with their reservation to final acts stating that it continued to maintain sovereignty overhead and that all other countries with slots over Colombia should consult Colombian govt. before launching their systems. Brazil and Paraguay would be among those affected.

Neither Canadians nor Americans let assertion stand unchallenged; both took counter-reservation to Colombian assertion which said, in words of one Canadian official, "that's utter nonsense."

Impact on Future Conferences

It will take some time for full ramifications of RARC start to sink in. Last week, there weren't enough copies of conference Final Acts to go around, so many people hadn't studied results. Performance of U.S. delegation and home team will be evaluated so that lessons can be applied to U.S. efforts at future ITU conferences. Preliminary State Dept. conclusion is that new coordination process worked well, although there were some reports of strain between Washburn's delegation and Dougan's home team.

When it gets around to it, Congress is likely to examine RARC Final Acts in broader political context. Put in skeptical light, RARC has just done what U.S. has always resisted, i.e., a prior orbital planning. Politics once again interfered with what U.S. has always said should be a technical forum. With further satellite conferences looming in 1985 & 1987, RARC has set precedent for more rigid planning of fixed satellite and other space services; that could further restrict U.S. industry's freedom to exploit space resources at will.

Some Final Details

Other details from final acts include: Tough language in passage governing changes to system agreed to by participating country. "Any modification to a frequency assignment which is in conformity with the plan or any inclusion in the plan of a new frequency assignment which would have the effect of exceeding the limits specified... shall be subject to the agreement of all affected administrations." If the 2 countries affected can't produce compromise or come to some agreement on technical ways around interference, IFRB will be called in to arbitrate.

Still, conference did accept Technical Committee's view (and U.S. position) specifying what constituted "affected" country.

All provisions of acts are assumed to be in place by countries such as U.S. & Canada, which will be among first to launch DBS service, but they won't go into effect until adopted by Space Orb (or Space WARC) in 1985 -- conference that will get head start on planning/confirming frequencies and power levels for all space services.

Rivalry between French PTT and Ministry of Communication over determining use of TDF-1 satellite is exacerbating situation already strained by French govt.'s difficulty in financing project, according to our European correspondent. Options for potential DBS bird to be launched in late 1985 or early 1986 include: (1) French superstation jointly produced by broadcasters in France, Belgium & Switzerland. (2) Pay TV channel. (3) Lease of DBS channel with French coverage to Compagnie Luxembourgeoise de Telediffusion. Ministry of PTT doesn't support DBS technology, favors use of cable systems with communications satellites like Telecom 1. Ministry of Communications wants to develop DBS technology, is promoting it by developing programming for use on such network.

August 1, 1983

M/A-COM TO DESIGN MURDOCH'S INTERIM DBS SYSTEM

M/A-Com will be general contractor for Rupert Murdoch's InterAmerican Satellite TV (IAST) under contract naming it prime consultant to design interim DBS system and handle procurement of dishes & related ground equipment. Few details of deal were available, but it's known 6-man M/A-Com design team began work in N.Y. this week on first stages of project.

IAST Pres. William Kommers told us M/A-Com will be "system design consultants and will procure the equipment" for entire interim DBS system. M/A-Com was chosen because of its

leadership in manufacturing dishes and other satellite system equipment, Kommers said. Murdoch said in written statement that choice of company to handle system design was "major step toward making reliable, low cost ground equipment readily available to subscribers," and was strategic choice given "tight production schedules" most equipment companies operate under.

Amount M/A-Com will receive wasn't disclosed, but General Instrument received $600 million to provide similar service for another early-entrant DBS company, United Satellite Communications Inc. (USCI). Though GI is in charge of procuring and distributing system for USCI, same M/A-Com equipment as in IAST system will be used. Because GI received stock share of USCI for its contribution, some in industry speculated that M/A-Com might have similar deal.

M/A-Com Vice Chmn. Frank Drendel gave that impression when he addressed Washington Metropolitan Area Cable Club lunch last week. Giving broad outlines of deal, Drendel said: "We are going to assist [IAST] in finding ways to sell and distribute" dishes & related equipment. But others in M/A-Com leadership quickly denied that meant company would be directly involved. Jack Forbes, company communications dir., said: "We're not going to put them on rooftops... We're the equipment provider and [IAST is] going to have to figure out a way to put the system out there."

That means working group set up to study problem will be looking for prime candidate to distribute and install systems. Industry sources speculated that Bell Operating Cos. would be such candidate, but no agreement has been announced. Package may include such off-the-shelf M/A-Com hardware as 1- or 1.2-m dish. At cable club lunch, Drendel said that much of equipment could "come off the shelf," that dishes probably will cost $500-$700. He said 1.2-m dish "might be a little small." Forbes said dishes would be 2-m or smaller.

Scrambling system will be identical to that designed for HBO, Forbes said: "With over 4 billion different code combinations, it's tough to improve on." More than 1 billion homes can be addressed by encryption system -- interesting feature for Murdoch since his is so far only interim system that plans country-wide coverage (other DBSers will concentrate on populous northeast to start).

Probable head for M/A-Com design group is Gene Gabbard, M/A-Com vp for strategic planning.

Industry has been slow to react to RARC (Regional Administrative Radio Conference) report, detailing slots for use by U.S. for DBS. Direct Best. Satellite Corp. Pres. William Pritchard said "preliminary discussions" were underway between his company and Satellite TV Corp. on co-location, that most desirable slots would probably be 110 & 148 degrees west (middle east slot and most eastern west slot). Industry sources said co-location with STC, while it might be interesting to other companies, wouldn't matter much to STC, as they will have 6 channels per slot anyway. Pritchard said biggest single impact from RARC might be proof financial community was seeking that DBS was reality, not just plan on FCC drawing board. No word yet, however on financial backing that would give DBSC go-ahead to book satellite builder.

Portugal's TV network Radio Televisao Portoguesa (RTP) is looking into DBS and cable and has invited foreign experts to advise them.

August 8, 1983

Time Inc.'s 6 transponders on Galaxy continue to prompt speculation as they lie unclaimed month after launch. With exception of Group W and SIN, other owners of transponders on Hughes satellite also have been silent about applications, many, it would seem, waiting for influential move of Time Inc. HBO also has empty transponder on Satcom 4, which SIN TV Network will vacate in move to its Galaxy transponders Aug. 11. Possible HBO scenarios for Galaxy include: (1) Central time zone feed, either for Galaxy transponders or Satcom 4, which

would give HBO programming advantages over other pay services, none of which currently has CST time differentiation in programming. (2) Use of Galaxy transponders for SMATV service, possibly in conjunction with WTBS Atlanta, which also owns channels on new bird. SMATV service could include combined service of WTBS & CNN for daytime programming, HBO-packaged films at night, in either event would be aimed at apartment complexes, hotels, hospitals, etc., market HBO already has entered. (3) Use of one or more transponders for eventual transmission of Time Inc.'s 5,000-page teletext service, set for late 1984 launch. (4) Interim SMATV service to compete with low-power direct broadcast satellite services to be unveiled this fall. DBS task forces within HBO have looked at question of DBS for service, and factions within Time Inc. reportedly are urging examination of Galaxy transponders to test use.

Oak Communications says it expects to be able to produce decoding systems for early-entry DBS applications for around $180 by early next year. "Personal decoder" will lack bells & whistles of Oak's professional unit, is intended for rapid deployment. Oak told us that it doesn't expect DBS decoder production problems akin to those which plagued introduction of company's TC-56 cable converter. Oak official said experience gained with commercial Oak unit has given company complete confidence in its down-sized consumer box. Asked to assess impact of competition from M/A-Com's Linkabit unit in DBS decoder market, Oak official said: "There's no competition. Right now, we're the only one who can deliver."

European Bcst. Union's general assembly has unanimously approved British-developed C-MAC standard for advanced TV systems in Europe. At same time, France & Germany have expressed reservations on agreement, saying several issues remain to be resolved and calling for further negotiations. Among reservations are patent question, adaptation of TV receivers to receive DBS broadcasts in C-MAC standard and problems with downlinks to cable TV systems. DBS was said to be major impetus to adopting standard, Union saying in its opinion that ability to receive other countries' DBS transmissions called for standard which would make such programming available to European viewers.

DBS digital radio system will be previewed at International Funkausstellung (Audio & Video Fair) Sept. 2-11 in Berlin. Visitors to display by ARD & ZDF networks will be able to listen to digital stereocasts on 16 channels transmitted from Bavaria via Orbital Text Satellite (OTS). All 16 radio channels will occupy bandwidth equivalent to one TV channel. Also demonstrated will be TV carried by same satellite. Regular service is scheduled to start in 1985-86. Show will feature symposium on TV-radio satellites.

Rupert Murdoch and Ted Turner had lunch together in Washington last week to discuss possibility of Turner providing programming for Murdoch's new DBS venture Inter-American Satellite TV.

August 22, 1983

Canada's Baton Bcstg. has applied to Canadian Radio-TV & Telecommunications Commission to launch 24-hour all-news channel. Deadline was Aug. 15, came in context of broadcast regulators' request for submissions for specialty cable services. Channel would be distributed free to Canada's 4.3 million English-language cable subscribers and might also be accessible to rural DBS subscribers, Toronto-based company said. Advertiser-supported service would be provided by subsidiary CNIN Communications and delivered by Anik C. Annual costs could run $25 million with start-up costs in neighborhood of $7 million. Baton Vp Joseph Garwood said Turner Bcstg. Systems or Satellite News Channel are options to provide foreign news.

August 29, 1983

NEC AND TELEASE SIGN DEAL FOR DBS ENCRYPTION SYSTEM

NEC, company which hopes to be major manufacturer of DBS equipment in U.S. through its joint venture company Alcoa/NEC, has found what it thinks is answer to its encryption needs: MAAST, Multiple Application Addressable Secure TV system developed by Telease. Last week,

NEC signed agreement in principle to manufacture and market system with its own satellite receivers. Under agreement, NEC has exclusive rights to MAAST system for DBS; it may be marketed separately for cable systems at cost of around $175, but is expected to make up smaller portion of $250 target price for whole DBS system.

"Encryption's the key to making DBS work," NEC Vp Dennis Fraser told us; without secure system for marketing pay TV, "it just wouldn't be economical for companies to get into the business." Fraser said he thinks securing MAAST system for his company puts NEC ahead of market -- and especially its arch DBS rival M/A-Com -- in ability to deliver secure, reliable DBS equipment system economically.

System, exhibited but not demonstrated in St. Louis at Satellite Communications Users Conference, certainly has it all on paper. As explained by Telease Pres. Robert Block, MAAST system can encode at uplink, transmit signals and decode at viewer's home. For video, system removes horizontal and vertical synchronization and inverts video; audio is transmitted at random frequency hop at random intervals and company claims box itself can't be tampered with.

Other system features: (1) Impulse pay per view. Button on box can be pressed by viewer at any time; box then assigns 4 digit number to show, date and time and logs it for later check on payment. Block cited industry studies which he said show impulse purchasing improves buying rates by 200-1,300%. (2) Five audio channels can be transmitted with each of up to 5 video channels. System could allow for stereo or even quad sound, multi-language transmission, pay or closed circuit radio (for audio conferencing or perhaps to relay constant information channel for viewer on how to operate his system), or ASCII-standard data transmissions. Data channel could be transmitted directly to user's computer for "fraction of the cost competitors pay to provide the service via telephone," MAAST literature claims. Other audio channels could narrate teletext, for which system can accommodate 16 lines on video channel.

(3) Control Network. Many kinds of devices can be attached to and controlled by MAAST unit. MAAST, when instructed by viewer, can turn on home VCR unit to tape unscrambled pay per view event, then can turn off VCR when show's over. Unit can be attached to home security system and ordered to turn on TV at scheduled intervals, operate water heaters or other appliances, collect viewer habit data. (4) Some 200 tiers can be regulated. Box has console light which comes on if program is outside viewer's tier, thus preventing many phone calls to operator. System can be locked to prohibit use of PPV function while viewer is away or programmed not to allow viewing unsuitable fare by children.

(5) Operator can automatically bill subscriber electronically. Light goes on when bill is due; viewer presses button to find out what's owed, notes amount that appears in small viewing screen, writes down code number which tells operator how many and which paid events were watched and either mails in check or punches charge button that pays bill automatically. (6) Automatic electronic credit limit also can be applied by operator. Block said this feature saves operator subscribers in long run: "Because if they don't pay on time and the bill adds up, they end up with a bill they can't afford and ask you to rip the system out."

"The whole thing is a gee whiz," Block said; "The customer hears this thing explained and says, 'Gee, they even bill me from space." But prime selling feature is cost saving for operator, he added. "We didn't ask the question most people ask when they're designing a system -- how can I come up with an encryption system that gets my signal from here to there, scrambles and unscrambles it. We asked, how can we save the operator money and give maximum customer satisfaction." Block claims it would cost "tens of thousands of dollars" to crack the system and is cheaper than M/A-Com's audio encryption system. Several attempts were made to reach M/A-Com for response but those who were available wouldn't comment.

Production units are expected to be delivered to pay TV operators by middle of next year -- schedule company believes to be 18 months ahead of nearest competition. System was tested successfully by satellite in June, Block said. Telease has been in business since 1972, developed early version of MAAST for SelecTV PLC, British pay TV operator.

COMSAT'S DBS UNIT SEEN ON VERGE OF DEAL WITH GENERAL CINEMA

Satellite TV Corp. unit of Comsat is apparently on verge of completing $600 million joint venture deal with partner to join in STC's plan to introduce DBS. Our sources expect General Cinema, Newton, Mass., soft drink bottler and movie exhibitor, to take up to $300 million equity interest in STC. Deal is thought to be one of 3 currently being negotiated by STC and it's known STC is talking to one or more TV networks.

At same time, indications were strong that there will be no agreement between STC and United Satellite Communications Inc., venture backed by Prudential Insurance and General Instrument. Although we never expected that STC would get together with USCI, possibility was given great prominence elsewhere, giving rise to expectations in some quarters that such an agreement was likely. Although talks have been held between 2 DBS rivals, according to our sources, these talks are definitely off. USCI "clearly needs more money put into it," one source said. "Both Prudential and General Instruments have the money to finance it themselves -- the question is if they want to do that." Mindful of deal with Sears that fell apart after it was prematurely disclosed, STC officials refused to discuss any details of its search for partners. One STC official predicted that deal now being worked on could easily collapse if it received publicity before closing. General Cinema officials were unavailable. But corporate source did concede that STC is hoping to make major announcement in next couple of weeks.

On face of it, General Cinema looks like appropriate partner for Comsat. GC has longstanding ties to production world, is very acquisitive, is awash in cash & marketable securities. GC last year sold its WCIX-TV Miami to Taft Bcstg. for $65 million cash, $5 million in notes plus assets of WGR-TV (now known as WGRZ-TV) Buffalo. GC also owns radio stations in Boston & Baltimore. In most recent annual report, GC Pres. & Chmn. Richard Smith described commitment to growth through acquisition, noting that although GC would prefer to buy an entire business, it would "consider a major investment in another company."

Notes from Satellite Communications Users Conference in St. Louis: Programming will be key to success of DBS ventures, panelists at DBS seminar agreed. Paul Heinerscheid, technical operations dir., U.S. Satellite Bcstg., admitted his company has spent more on programming research "than on anything else." Asked whether DBS firms in fact had chance to survive, based on what seems to be paucity of quality programming on even network level, Joseph Freitag, RCA, said that a few would, reminded audience that "programmers are confused too. They have been looking at the DBS market the same as equipment producers and everyone else, and it's difficult to predict what they'll come up with."

As those on panel had interest in seeing DBS survive as future TV medium, they made following suggestions: (1) Encryption is likely to be one of most expensive components of DBS equipment system; therefore, manufacturers should pool resources to come up with workable, inexpensive method. (It should be noted this suggestion came from Dennis Fraser of Alcoa/NEC, which hopes to become major supplier of DBS dishes and other equipment. Company just signed deal with Telease to market that firm's encryption system.) (2) Transmission systems should be standardized. (3) Companies should share orbital locations to park their satellites so customers can pick up several signals without repointing dish. (This suggestion came from Wilbur Pritchard, Direct Bcst. Satellite Corp. pres., who declined to name which slots he thought would be best suited for most companies.)

Other economic realities may diminish chances for success of higher-powered DBS systems, Freitag said. He cited cost figures per transponder year for low-power (regular Ku-band) DBS-like systems in neighborhood of $1.5-$1.8 million, for medium-power (STC-like system) as roughly $3.6-$4 million, and for high-power DBS as $10-$18 million. Low and medium powered satellites will capture SMATV market while cable will stay put on C-band, he added. That still leaves 15-20 million homes not reached by cable or outside reach of adequate TV for high-power market. It would be cost-effective for company to launch system if it could capture at least 5 million of these homes, but, given large number of high-power DBS applicants there's "obviously the threat of oversupply," Freitag said.

U.S. Satellite Bcstg. (USSB) will be awarding its satellite manufacturing contract within next month, Technical Operations Dir. Paul Heinerscheid told conferees at SCUC. Five firms are contenders to be prime contractor to build birds for DBS service which will start in 1986. Another DBS hopeful, Satellite TV Corp., is expected to announce company which will supply its home earth station equipment, also in next month, industry sources tell us.

DBS Industry Advisory Committee chaired by former FCC Comr. Steven Sharp tentatively plans first meeting Oct. 4. Established by FCC, committee has one-year charter, is expected to advise FCC on whether to impose standardized technical requirements for DBS signal transmission; if conclusion is to recommend that standards be imposed, committee also will recommend specific standards. Contact: Bruce Patten, 202-653-9098.

September 5, 1983

EUROPEAN SATELLITE SYSTEM ARISING IN LUXEMBOURG

BRUSSELS: Luxembourg's disclosure that it intends to launch fixed satellites for regional European telecommunications services has shocked others in Europe, who had thought that Luxembourg's satellite ambitions had been appeased by willingness of French to give Grand Duchy one channel on TDF-1 broadcasting satellite.

But latest scheme moves away from DBS, instead is aimed at creating what looks like U.S.-type satellite carrier, offering range of services encompassing data transmission, video distribution & videoconferencing. Indeed, comparison with U.S. scene can be taken further to suggest that Luxembourg project looks in some ways like European version of Orion -- directly threatening Europe's monopoly carriers just as Orion threatens Intelsat's monopoly in North Atlantic basin.

In long-running saga of Luxembourg's DBS dabblings, it's been apparent for some time that govt. was losing patience with slow pace achieved by CLT, company that owns radio-Tele Luxembourg. CLT has been agonizing for years over whether to launch DBS service to provide advertiser-supported programming to west central Europe. So snail-like was CLT's pace that govt. more than year ago threatened that if CLT couldn't come up with viable satellite scheme, govt. would find someone else who would. This search for investors now appears to be moving into high gear.

Based on what's been released about latest Luxembourg satellite, investors still aren't all rounded up, although CLT will somehow be involved. In informal statement to press, Prime Minister Pierre Werner indicated that he expects investors to form new consortium, based in Luxembourg, to finance & operate country's satellite fleet. According to filing at International Frequency Registration Board, Luxembourg intends first launch in 1985 -- 16-transponder satellite operating at Ku-band. It initially is seeking to use orbital location at 7 degrees east. But detailed information hasn't been disclosed. Luxembourg govt. said official communique is forthcoming.

Luxembourg scheme goes long way to shake up and energize European satellite development. Eutelsat's reaction was of profound surprise & skepticism, and there were preliminary indications that Eutelsat, which is controlled by European PTTs, will seek to block Luxembourg project as representing potential economic harm. Irony of this argument coming from Eutelsat, which had to overcome similar objections to its own creation from Intelsat, won't pass unnoticed. On practical level, Eutelsat already is moving to respond, is seeking to expedite launch of its 3rd satellite to provide 3-satellite constellation by 1985.

One basis of Eutelsat skepticism is Luxembourg's claim that it will launch by 1985. Implication of that statement is obvious: There's no manufacturer in Europe who can produce such satellites that quickly. Significantly, however, there are at least 2 U.S. suppliers -- RCA & Hughes -- which could probably meet that deadline without sweat. U.S. launch capability also appears readily available to accommodate Luxembourg timetable. It's not yet clear whether U.S. investors will be welcomed to Luxembourg satellite project.

GENERAL INSTRUMENT PLANS BUSINESS DBS

Even as film deals for United Satellite Communications Inc. are being sewed up for upcoming Nov. DBS debut, General Instrument, investor in USCI venture, plans to add business video, voice & data to growing use of medium-power birds. "Yes, such a service will be technically feasible in the near future... we are studying its possibilities," GI man said.

Company plans to sell or lease 1.2-1.8-m dishes to businesses for data delivery that would be "a lot lower in cost," one source told us, than current methods of videoconferencing and data transmission. Transponder time also could be leased through company, though no satellites were mentioned specifically. GI will make use of its systems background, notably computerized betting information systems used in N.Y. & Conn., and its experience with coaxial cable, in potential business data delivery service, representative said. Two-way DBS delivery, also under exploration at GI, would be logical addition to business transmission services.

Lower-powered transponders could be used for business service, on unspecified satellite. "A 1.8 meter dish is too big for a home," said our source, "but it would be all right for a commercial roof." Further announcements, involving other equipment manufacturers, would be likely in next month or so, he added. "It's a logical extension of the business," he said.

Meanwhile, major MSOs tell us they're ready to take on distribution of DBS side-by-side with cable systems. Group W Cable Programming Vp Martin Lafferty said: "We'd like to be distributors of DBS." American TV & Communications Business Development Vp Lawrence Howe concurred. "We may be a marketer of DBS operations--the question is, is it worth going into?"

"We really see ourselves in the premium home entertainment and information business," Lafferty said, "not a narrowly defined business." GWC would install converters for DBS as it does for cable now, Lafferty maintained. Distributing dishes, he indicated, could also be done. Door-to-door sales force Group W is developing for its cable sales would be just as useful in marketing DBS where needed, he noted. Company has talked to all major participants, including USCI, whose service now is set for fall launch on Canada's Anik C.

Harvey Schein, former chmn. of Sony Corp. of America, most recently pres. of PolyGram Corp., named pres., Skyband Inc., DBS unit of News America Publishing formerly known as Inter-American Satellite TV. Schein, whose long career in entertainment has included stints at Warner and CBS, also will serve as exec. vp and board member of parent News America Publishing. William Kommers, former pres. of Inter-American, has been named vice chmn. of Skyband.

September 12, 1983

ADVANCED TV SYSTEMS GROUP ATTRACTS MORE MEMBERS, CHARTS STUDY OF IMPROVED TV TECHNOLOGY

Advanced TV Systems Committee (ATSC) took steps last week to complete organization, begin exploring improved TV technology, including satellite-delivered high definition TV and enhanced systems for use in DBS. ATSC accepted 11 new members, now totals 43, formed 3 subgroups, elected 17-member exec. committee.

Joining ATSC, outgrowth of Joint Committee for Intersociety Coordination (JCIC), were Bell Labs/Western Electric Network Systems Div., Bell-Northern Research, Editel Group, Hughes Communications, NBC (becoming last of 3 networks to join), Panavision Electronics, Pappas Telecasting (KMPH-TV Fresno), RCA Americom, U.S. Satellite Bcstg., Viscom International USA, Warner Amex. Granted observer status were Bell Labs/Exploratory Wideband Switching Dept., Kalba Bowen & Meredith Corp.

Areas of study assigned subgroups: (1) Improvements in compatible NTSC within framework of 525-line standard and 4:3 aspect ratio. Pursuit of improved home receivers,

studio cameras and TV plant distribution & processing. (2) Enhanced 525-line scanning through changes in radiated/transmitted signal format. To be studied are such enhanced systems as multiplexed analog component (MAC) approaches proposed for European DBS. (3) High definition TV (HDTV). Subgroups will propose voluntary national standards, solicit comments from industry.

Renville McMann, CBS Technology Center, will chair HDTV subgroup, and Daniel Wells, asst. vp-engineering at Satellite TV Corp., will chair Enhanced 525-Line subgroup. Chairman for Improved Compatible NTSC subgroup probably will be chosen at Oct. 3 meeting of exec. committee. Members elected exec. committee: ABC, Assn. of Maximum Service Telecasters, CBS, DBS Corp., EIA, Group W, HBO, IEEE, NAB, NCTA, North American Philips, RCA, Satellite TV Corp., SMPTE, Sony, Warner Amex, Zenith.

Budget of $165,000-$200,000 will be required first year. Dues will be assessed on sliding scale according to company size, possibly up to $10,000. Exact formula will be determined later. It was unclear whether JCIC members (NAB, NCTA, IEEE, SMPTE, EIA) would be charged full first-year dues because they funded organizational & start-up costs. NAB's Thomas Keller was named chmn. of budget & dues committee.

September 19, 1983

HARVEY SCHEIN ON SKYBAND'S CHANCES IN FLEDGLING DBS MARKET

By his own admission, Harvey Schein, new head of Rupert Murdoch's Skyband venture, is "a babe in the woods" when it comes to DBS. But being new on scene doesn't seem to daunt former chmn. and CEO of Sony of America who has served as pres. of CBS International Div. and as exec. vp of Warner Communications. He has undertaken his technical education with fervor that makes his work schedule "very tight," and, while his newness to field may lead him to make optimistic predictions about fledgling DBS industry, he says he has reason to be hopeful. He shared some of those with us in interview last week.

Most favorable omen for Skyband may be personality and commitment of company's majority owner, Rupert Murdoch, Schein said: "He's dealing with his own money and he's got a lot of it." (News America Corp. made around $88 million in after-tax profit last year.) But more importantly, Murdoch "intends to devote a very large amount of those resources to the development of DBS on a worldwide basis... I'm thrilled to be working with a man like that who's willing to put his money where his convictions lie," Schein said.

Because of Murdoch's personality and involvement in company, Skyband doesn't function by committee; "we're just moving ahead," Schein said. FCC has just okayed firm's deal with Satellite Business Systems for long-term lease of 5 transponders on SBS 3. What Skyband hopes to launch early next year will be 5-channel subscriber TV service that offers premium programming to viewers who can't get those services any other way. Places that are ripe for service are populous, urban areas like Brooklyn or Bronx (part of which Schein says he can see from new offices at N.Y. Post) and rural areas, neither of which have been cabled yet. Some 35 million aren't being passed by cable, Schein said, and many of those viewers are so eager for premium programming, "they may beat down our door to get to us."

"We'd be at a competitive disadvantage if we went head to head with cable," but firm would do well against STV outfit in uncabled areas because prices would be comparable but Skyband would offer wider selection of programming, Schein said. He wouldn't comment on specifics of programming, said we'd have to wait several months for any announcements. But he gave impression that details aren't firmed up yet. Only definite thing, Schein said, is that firm will concentrate on recent movies, sporting events, news -- same type of fare that viewers would get via cable if they had it. Firm won't consider more "esoteric" programming at first, but Schein predicted that technological advances would make it possible in future to distribute 10-20 channels: "Then we could see the option of an agricultural station or children's programming or a religious channel."

Initial plan is to purchase programming, but, with news & sports empire spanned by Murdoch, if opportunity to tap that information arises, "we'll certainly take advantage of it," Schein said. He takes expansive view of company's technological capabilities, sees day when satellite firms can produce birds that not only give more satellite capacity but wider coverage.

Problems of launching service to wide area of country all at once are "manifold," Schein said. Ideally, he suggested, company could set up shop on 42nd St. & Broadway in Manhattan and potential subscribers could stop in, purchase dish and pay first monthly service fee. Actually, firm will have to rely on variety of options, one of which may be farm cooperatives originally associated with Skyband's predecessor Inter-American Satellite TV. Initial problems won't keep company from launching service in different parts of country -- perhaps mixture of suburban, rural, northern, southern regions -- "a potpourri to try and get some history."

On equipment front, Skylink is determined not to rely on any one manufacturer. Asked if consultant M/A-Com had clinched any part of contract, Schein said: "We haven't signed any purchase orders yet... Nobody has us locked up." Dishes will vary (1.0-1.8m) depending on where they fall in satellite's footprint and how much rain attenuation is expected. Being on Ku-band bird poses some problems on that score, but they're minimal, Schein said: "It will be far superior to the reception [most people] currently receive," and "you have to compare that to the situation of someone who's getting nothing" in way of premium programming.

Startup costs are "great... huge," but so is potential market, Schein said. He sees DBS growing into "multi-billion dollar industry," and Skyband as principal player: "If we are successful, this could be a very big win."

INSAT 1-B RESCUED; FORD PLANS TO GET INTO TRANSFER STAGE BUSINESS

"Trouble-shooting from 22,000 miles out is always a little miraculous," Ford Aerospace spokeswoman said when asked to comment about manipulations that saved India's $80 million investment from becoming orbiting scrapheap. Late last week, things looked grim for Insat 1-B, combination weather and communications satellite, solar array of which was stuck fast against satellite's side. First attempts to dislodge array by heating Insat's hinges and firing bird's thrusters didn't work.

But team of Ford and Indian engineers succeeded on 2nd try in freeing stuck solar array early Sept. 10. Experts had decided that one of 2 pins involved in bird's yoke mechanism hadn't become hot enough in first heat soaking and turned bird for another hour-long basting. Array then sprang free from side of satellite. Ford officials wouldn't say how much fuel was expended for maneuver, but later statement asserted: "It has been determined that there is more than enough fuel on board to provide for the intended 7-year mission." Company spokeswoman said that Ford was "delighted," that success of maneuver "justifies the prudent approach that controllers took" in righting situation.

Space insurers, who had been biting their nails most of week, hailed engineering feat but waited tensely for deployment of solar boom, twin of which failed to deploy on Insat 1-A. When boom swung out easily at 4 a.m. Hassan, India time Sept. 14, it was to sound of grateful, if weary applause. Day earlier, C/S-band antenna for DBS TV and communications was deployed without incident; C-band antenna for telephone and data transmission had deployed few hours after satellite was launched.

One sideline in saga that could have made it hot for NASA if array had never deployed: Indian Space Research Organization claims unidentified object, about 8" across, struck Insat 1-B about 23 sec. after satellite left shuttle cargo bay. NASA said early indications are that object came from outside Challenger, but it was spotted on TV tape traveling at same speed as space truck, so others said it might have been part of cradle apparatus or other shuttle part. Object couldn't have caused much damage, one insider said: "The only reason it was spotted at all is because it was traveling slow enough to be seen on the film of the satellite deployment."

Another observer noted that similar "objects" had been spotted on tape of SBS-5 satellite deployment, were determined to be camera fragments.

On-orbit checkout will span next 2 weeks, after which bird will be ready for service. First trials of electronic systems, begun Sept. 15, showed all C-band & S-band (DBS) channels operating normally. TV picture sent through satellite also was relayed in good form, spokeswoman said.

Success grants reprieve to Ford which had borne brunt of industry speculation throughout gloomy week that company's commercial satellite building days were numbered. If 2nd Insat had failed, one industry source said: "I wouldn't have given 2 cents for their credibility."

U.K. GOVT. APPROVES COMMERCIAL DBS

LONDON -- Britain expanded its commitment to direct broadcast satellites last week with announcement that independent broadcasters will have opportunity to operate 2 DBS channels around 1986-87.

Addressing Royal TV Society's annual meeting in Cambridge, Home Secy. Leon Brittan said legislation will be introduced soon to amend Broadcasting Act, which currently makes no provision for Independent Bestg. Authority to participate in DBS.

An IBA spokesman told us that govt. decision doesn't appear to require IBA to award DBS contract to any particular system contractor. It would seem likely that IBA will be encouraged to buy its space segment from United Satellites Ltd., consortium of British Telecom, British Aerospace & GEC that currently is creating satellite system for British Bestg. Corp. However, it's possible that IBA could obtain space segment from an alternative supplier--though none has emerged. Said IBA official: "Unisat can't be taken for granted."

IBA won't directly program its DBS system, instead will grant franchises to commercial companies, in same way that it already franchises rights to use Britain's commercial terrestrial networks. If past practice is maintained, opportunities for foreign companies to participate directly won't exist -- although there's no doubt that U.S. programming will comprise significant portion of any service.

More on that Luxembourg fixed satellite plan: Word in Europe has it that Clay Whitehead, former Hughes Communications pres. and now head of Coronet Research Inc., and publisher Rupert Murdoch are definitely involved in scheme, that West German publishers Axel Springer and Bertelsmann are in there, too.

FCC decision to okay Satellite Business Systems (SBS) long-term lease of 5 transponders to Rupert Murdoch's DBS company Skyband has fueled already burning controversy at Commission over what constitutes "broadcaster." Commission ruled that Skyband has "some of the attributes associated with traditional broadcast services," but offering "is not intended for the general public since the signal will be scrambled and received only by paying customers who have [Skyband's] decoding equipment." Skyband thus falls in "hybrid" category with both broadcasting and point-to-point service characteristics "and need not be subject to broadcast regulation," FCC said. But Comr. Rivera dissented, raised questions about lines separating pay TV services from broadcasters. Upshot of debate, Commission sources said, is that notice of proposed rulemaking will be issued: "You can pretty much assume that they'll be looking to define subscription TV services better than they have been," source said. Some analysis of DBS's "regulatory qualities" will probably be included, source added.

Questioning European DBS approach at Economist magazine's cable and satellite TV conference in Birmingham, England, Michael Tyler, chief exec., CSP International, N.Y., suggested that Europeans could learn from American experience with lower-powered satellites. "The critical question is the extent to which the 40-watt distribution satellite can do much of the job. Is not the full-power DBS obsolete before it's launched?" he asked. Christopher Irwin,

mgr., DBS development, BBC, retorted that costs of high-powered satellites will be insignificant in long run when costs of programming and ground segment are considered. "One needs to regard DBS as a totality..The argument about satellite costs is less important.

"There's certainly no real argument about the traditional DBS concept vs. the sort of thing [Tyler's] talking about," said Jon Chaplin of European Space Agency, who predicted that DBS could be formidable in Europe, could deliver service competitive with cable. Concerning supply of fixed satellite transponders for distribution of programs to cable systems, he predicted "barely enough transponders until the end of 1985, after that there appears no problem." He said that in area of DBS earth stations, "the Japanese may surprise and perhaps frighten Europeans with the price of their equipment when it appears in the high street."

First general meeting of Direct Bestg. Satellite Assn. (DBSA) will be held in Washington Oct. 25. John Egan of Coopers & Lybrand, who has helped planning committee organize new group, reports 2 categories of membership: (1) Voting members who are DBS operators, programmers, satellite manufacturers or providers of satellite transmission capacity, manufacturers or distributors of DBS home equipment. (2) Associate (non-voting) members who are trade publications, law firms, consultants, spacecraft hardware suppliers and others. Contact: 1800 M St. NW, Washington, D.C. 20036, 202-822-4104.

Direct Best. Satellite Corp. (DBSC), which plans to launch common carrier DBS service, has hired A.G. Becker Paribas, investment banking firm, as financial adviser. Banking firm will help DBSC seek capital. Companies authorized by FCC to launch DBS systems have been given until end of year to prove they have sufficient financial resources.

September 26, 1983

SUMMIT FACULTY 'BULLISH' ON DBS MARKET, FAVOR HIGH-POWER SYSTEMS

Distribution of entertainment programming is only beginning for DBS, Satellite TV Corp. Pres. Richard Bodman told DBS Liftoff conference, sponsored by Satellite Week. "The provision of entertainment services to underserved areas will be the foundation of our industry," but: "In the next decade... that foundation will look like the basement of the Taj Mahal."

STC, Comsat's DBS company, envisions that DBS will engender "a whole new system of television... linking the pervasiveness of television with the vast capabilities of the computer," Bodman said. Single channel on STC high-power satellites will have 4,000 times capacity of single telephone line to download computer software, he added. Sounding something like scenario for "global village," Bodman's predictions for society post-DBS included move toward decentralized "home communications center... By linking the television to a home computer, complete with word processing equipment, the home will have an advanced electronic system comparable to a modern office." Bodman wasn't very specific on how these digital services would be provided, except that it would involve use of telephone lines.

Transition from simple pay-TV services will take time, he said, but, by latter part of this decade subscriber totals for DBS industry "could swell dramatically" to "become bigger than any one believes." By time DBS companies are offering entertainment, information and transactional services, subscriber total "could easily reach 30 to 40 million," Bodman said. Bullish projection reaches out to include STC -- company "conservatively" estimates that it will have 7 million subscribers by 1993, 9 years after service is launched.

DBS will glean many of those subscribers at expense of smaller, aging cable systems, Bodman predicted. Some 40% of U.S. cable systems have 12 or fewer TV channels, he said: "That percentage represents about 3,000 systems and more than 5 million subscribers... This is another obvious target market for DBS." Quality TV services and not quantity will aid STC's bid for cable market, as will lower overall costs of DBS system, Bodman said: "For less than $1 billion -- or about what it will cost the cable companies to wire the boroughs of New York City -- we could put up enough satellites to provide 32 channels of DBS programming nationwide."

STC will stick with fewer than that, but warns that cost is only comparatively cheaper than cable: "No one should think for a moment that this is the kind of business that a company can enter quickly and cheaply... To succeed in this very competitive business, a company must hit the market with a mature product," not expect consumer to be treated as "guinea pig."

On subject of high-power versus medium power systems (200-watt DBS in 12.2-12.7 GHz band versus early entry systems on conventional Ku-band satellites), Bodman said simply: "Power means money... There is no reason to believe that anything less than 200 watts will become the American standard." STC's own high-power satellites will be delivered in 1985, he said. Later, participant asked if rumored deal with General Cinema and CBS would mean high definition TV for STC; Bodman declined to comment but wouldn't rule out HDTV.

Others at conference were even more assertive on subject. Stanley Hubbard, pres. of Hubbard Bestg.'s DBS company U.S. Satellite Bestg., said "low-power DBS will be very short-lived." Companies like United Satellite Communications and Skyband won't be able to compete with larger number of channels and better reception of high-power systems, he said. He agreed with Bodman that DBS will give cable run for its money. He predicted that by 1995 "there will be a tremendous retrenching in cable," cited research indicating that 60% of those surveyed taking cable would drop cable for DBS when satellite service became available.

Among Hubbard's other predictions: "The future of pay-TV is very limited... When you have a tremendous selection of free programming, who's going to pay for it?" (USSB will be advertising-supported.) To bolster that prediction, he foretold renaissance in filmmaking industry, said that DBSers would be able to buy more and better quality programming than either cable or networks because "in DBS we have no middle men" to jack up costs.

Only defenders of medium-power systems seemed to be Frank Drendel, vice chmn. of M/A-Com, which has system-designing contract with Skyband, and Ted Jarmain, pres., Northstar Home Theatre, Canadian pay-TV service that will operate in much same way as USCI in U.S. Northstar system will run $1,500 (Canadian) for dish, low-noise amplifier and scrambler, not including installation--price many conferees said U.S. market wouldn't begin to bear. Drendel said TVRO market was strong enough to indicate that consumer would pay more than $350 that Hubbard cited as upper limit for DBS equipment. Scrambling is essential to success of DBS, he added, because "somehow TVRO owners will find a way to use even a 12' dish to pull in the signals. It may burn it up, but it will be tried." Opinion was in sharp contrast to Jarmain's view of backyard earth stations which he said 2-degree spacing would "turn into so many bird baths."

Voice of moderation came from lawyers in group who said industry still faces some regulatory and technological hurdles. Stephen Sharp, former FCC commissioner and head of FCC panel on DBS standards, said it wasn't clear in his own mind whether Commission should hand down technical guidelines. Debate is especially controversial in view of fact that equipment makers from Alcoa-NEC and M/A-Com at conference, though both said they favor industry standards, are putting forth completely incompatible DBS systems.

One of last remaining regulatory hurdles will be presented to industry when FCC issues criteria by which DBS awardees must modify their proposals to conform with results of Regional Administrative Radio Conference (RARC). Item was placed on agenda for last week's FCC meeting, then deleted. Sources said issue would be resolved soon. Leslie Taylor, asst. to Abbott Washburn, spoke at summit luncheon, predicted that Commission would probably decide as part of its ruling on criteria to give companies extension on Dec. deadline to provide proof of "due diligence." Extension would be welcome relief for DBS firms, many of which have had difficulty completing financing of their systems.

"We've been having conversations with a number of organizations" about possibility of joint DBS activities, CBS Best. Group Pres. Gene Jankowski told N.Y. security analysts meeting last week. At same time, he said, CBS would seek from FCC 6-month extension of Dec. 1 deadline requiring network to tell its plans for DBS slot. "We want more time to do our homework," he said. "We'd rather reject something than ignore it." Jankowski & executive staff dismissed

cable's inroads, claimed impact of new basic & pay services had peaked -- "the cable revolution is now down to isolated guerrilla warfare," said Vp Anthony Malara. Best. Group position, stated in new audience research booklet, is that HBO's primetime ratings have declined from 12.8 in 1980 to 11 in 1982, and Jankowski put drop at 25% from Feb. 1982 to Feb. 1983. CBS now says bulk of broadcast networks' audience loss is due to surge in independent stations, believes crisis has passed, since 51% of U.S. homes will be wired by 1985, vs. 60% expected in 1990. It calls pay cable rating expectations "unrealistic," dampened by high disconnect rates. Exec. Vp Neal Pilson acknowledged heightened competition for sports, especially on regional level, but maintained that "you will not see a major impact from any of the new media for 5-8 years," largely due to network's new contracts. Beneficiaries of regional pay ventures will be CBS affiliates picking up ad dollars diverted from independents that originally carried events. Other points: (1) CBS expects to produce 4-5 movies a year, at $8-8.5 million each. (2) Results of Ridgewood, N.J. videotex experiment with AT&T have been "rather positive."

October 3, 1983

Subscribers in Indianapolis to United Satellite Communications Inc.'s medium-power DBS service will be first in nation to view satellite-delivered video service through rooftop receivers. USCI chose area in central Ind. to receive service first because "it's a good representative market in terms of demographics," according to company spokeswoman, but she objected to use of term "test market." Ind. is "not a test market if by that you mean that we're going to try [service] out there and then expand depending on how well it does... Our marketing plan doesn't depend on how things go in Indiana." That's about all USCI is saying about its marketing strategy; it's been assumed from earlier statements by company that SMATV-type service to east coast urban areas would be another target, but spokeswoman said "our footprint extends over 26 states," implying that none would escape marketing efforts. Service, including rental of equipment, will cost initial subscribers around $40 monthly for 5 channels of premium programming including news, sports, movies, live entertainment specials (including Broadway plays & comedy), children's entertainment and educational programs, arts & cultural shows, women's programming and music video. Service is scheduled to launch Nov. 15.

October 10, 1983

FCC ISSUES DBS RULES AND PROCESSING PROCEDURES, GUIDELINES FOR U.S. STRATEGY AT SPACE WARC

In moves to get DBS industry moving in wake of regional DBS planning conference recently concluded, FCC last week adopted processing guidelines & procedures for 8 DBS companies which have Commission permits to build systems, also granted them extension of time to begin construction. At same time, FCC built in some incentives to encourage DBS companies to start construction quickly. Companies have 90 days to modify their applications to conform to Final Acts adopted July 17 at Region 2 Administrative Radio Conference. Modifications will generally be considered minor, unless they involve additional use of orbit or spectrum resources. Changes should be filed in narrative form and should follow format of original applications.

DBS companies which had been granted construction permits were given one year to demonstrate "due diligence" by starting construction, but only one company, Comsat's Satellite TV Corp., has indicated it has met that requirement. On Oct. 6, FCC gave other companies additional time -- until July 17, 1984 -- to show that they have started construction or have let contracts. FCC gave companies incentive to move quickly by stating that grant of specific orbital slots and specific frequencies will be made on first-come, first-served basis, after each company has complied with due diligence condition. This decision would appear to give Comsat's STC first shot at slots & frequencies.

FCC staff said notice is being prepared for 2nd round of DBS applications with 90 day window anticipated. Three companies with DBS applications pending will also be given opportunity to update their filings in light of RARC. They also will have one-year due diligence

requirement and FCC said no 2nd round orbital slots or frequencies will be granted until next July 17, or until all first round companies have demonstrated due diligence.

Surprise issue was raised when Comr. Dawson suggested that Commission make decision on whether DBS licensees can transmit data signals if they discover there are no customers for their video services. She suggested Commission "be as open and flexible as we can," said order seems "a little bit too restrictive." Staff said no decision has been made on that question and Comr. Rivera noted that FCC is "having a tremendous regulatory classification problem." Dawson said it would be helpful to industry and investors if they knew full range of available options. Staff said they would submit memo to commissioners on issue.

Inquiry on 1985 Space WARC

Commission adopted 3 statements concerning direction of U.S. policy for 1985 first session of World Administrative Radio Conference on space services, also known as Space WARC or ORB-85. International conference is to plan future use of geostationary orbit by all satellite services, is expected to be big problem for U.S. as developing countries demand reservation of spectrum and orbital locations for future space services. U.S., currently biggest user of orbital resources, is strongly opposed to using "rigid multilateral planning agreements" to ensure equitable access to orbit by developing countries, claims such an approach might interfere with technical innovation. FCC noted that time to submit preliminary proposals for Space WARC is now less than year away, with several preparatory meetings even sooner. Fowler added that he hopes State Dept. will move quickly to appoint members to Space WARC delegation.

First FCC statement suggested that there are 6 factors to be considered to reach common understanding of use of geostationary orbit: (1) Implementation of satellite systems. (2) User demand. (3) Technology developments. (4) Telecommunication network evolution. (5) International institutional arrangements. (6) "Perhaps, most significantly, the efficacy of existing ITU arrangements."

Second statement pointed out that services other than fixed & broadcast satellite are not amenable to alternative planning approaches and that goal of "equitable access in practice" seems amply met by existing ITU arrangements. Upper limit of 15 GHz is believed by FCC to be appropriate for discussion at Space WARC, because current experiments above 15 GHz could produce new types of systems only with most flexible kind of international arrangements.

Third statement noted that any approach involving detailed a priori assignment plans for any service other than DBS is unacceptable. A priori planning, FCC said, accepts demands for allotments without scrutiny or controls, freezes technical & operational characteristics at low common denominator, impairs ability to share common facilities later. FCC said that existing advance publication, coordination & notification process, while not perfect, has caused few difficulties in 10 years of practice, asked for comments on possibility of innovative non-treaty approaches.

LPTV OPERATORS EXPLORE AFFILIATIONS WITH DBS FOR PROGRAMMING

Low-power TV operators' prayer is that enough attractive programming will be available to lure audiences to some 4,000 stations expected to be on air by 1986. Hubbard Bcstg.'s U.S. Satellite Bcstg. (USSB) believes it will have answer to that prayer in skies by then with its high-power DBS birds and preached advantages of LPTV stations affiliating with USSB at LPTV East convention last week in Washington.

Programming may in fact be key to nascent industry's success; LPTV won't be profitable unless it offers unique programming that's of interest to both viewers & advertisers, many speakers at convention agreed. Best bets for new industry are for LPTV entrepreneurs to become suppliers of local programming to area cable systems or as last-mile delivery system for DBS, experts said. "The public doesn't watch technology," said Communications Technology Management Pres. Robert Schmidt, ex-NCTA pres. Schmidt said viewer "wants product" he

can't get elsewhere. He and others said LPTV, especially in larger markets, probably won't have significant impact if stations offer similar fare to traditional TV.

"We'd be very interested in rural LPTV stations carrying our programming," USSB Vp Robert Fransen said at Oct. 4 convention panel to acquaint LPTV interests with DBS developments. He said USSB plans to put together affiliate network of full- & low-power stations covering 70-75% of U.S. TV households, sees 60-65% as bottom-line. Because USSB's programming will be ad-supported, USSB needs that national exposure to satisfy advertisers, Fransen said.

USSB will seek LPTV partners in markets where it can't line up full-power independents or lure away network affiliates, Fransen said. Full-power stations have greater attraction as affiliates because of their greater signal reach, are usually must-carries for local cable systems. USSB and other DBS operators who plan ad-supported programming are interested in TV affiliation basically because viewers won't have to buy dishes. LPTV stations come into play in rural markets: "There are many markets with very few or no [full-power] TV stations. That's the low-power promise that we're exploring," Fransen said.

To sweeten deal, USSB would pay LPTV affiliate for clearances according to same as-yet undetermined formula as full-power station, based on stations' audience. Problem is that rural LPTV stations probably won't be able to provide hard numbers of audience size as full-power stations can with Nielsen or Arbitron numbers. Still to be resolved is question of whether affiliation would require TV stations to pass along textual matter to be carried on vertical blanking interval of USSB's 3 channels. Many TV operators are exploring using their VBIs for other purposes.

Pressing point that USSB will have quality programming, Fransen said Hubbard will spend $1 billion in first year for program development & acquisition. Most of that will be for rights to 2 showings of Hollywood movies, development of 24-hour all-news channel, development of shows for narrowcast channel offering cultural fare, regional sports.

USSB hopes to become 4th national network through affiliations, Fransen said. In its first year (late 1986-87), it hopes to garner 8% audience rating, about half what each commercial network now gets. That rating should climb to 9-10% by third year, when USSB expects to become profitable, he said.

Private Satellite Network, which will use new SBS hourly transponder tariff, last week disclosed more details of its management & finance team. William Miller, Treasury secy. in Carter Administration, is chmn. of N.Y.-based "institutional DBS" operator; pres. is Marc Porat, ex-Aspen Institute; exec. vp is Thomas Rush, ex-SBS and Warner Amex Cable; senior vp-gen. counsel is Richard Neustadt, ex-Wiley, Johnson & Rein Washington law firm; vp-sales is Patrick Casey, ex-American Satellite Co. Principal shareholders include Warburg, Pincus Investors, Concord Partners, Centennial Fund, J. Rothschild International, General Instrument, L.F. Rothschild, Unterberg, Towbin and J. Henry Schroder Wagg. No customers have yet been announced, but we understand that one of nation's largest brokerage firms is close to signing contract for PSN services.

October 17, 1983

MARKETABILITY OF DBS MAY DEPEND ON INDUSTRY STANDARDS, BUT CONFLICTING INTERESTS MAKE TASK DIFFICULT FOR FCC GROUP

FCC Industry Advisory Committee on DBS Standards got off to rocky start Oct. 13, with around 1/3 of those present expressing view that Commission shouldn't set any technical standards for industry. Committee, headed by former commissioner Steven Sharp, is investigating whether industry consensus can be reached on DBS transmission, receiver and encryption standards. Sharp said mandate for committee didn't specify what form recommendation should take or even whether certain standards were advisable, just made it

clear: "We have very little time; whatever we decide has to be determined in the next few months."

Mandate runs out by next June, when group will report to Commission. "The best we can hope for may be some kind of parameters within which to operate," one participant said. But time is even shorter, as far as others are concerned. STC Dir. of Spectrum Management Edward Reinhart told us STC had already invested millions in its early-entry system and had only "matter of weeks" to make certain technical determinations.

STC contingent was thus among first to raise hands when group was asked who opposed setting standards. Jack Hannon, STC vp-gen. counsel, said timing was crucial in another respect: "The timing of any resolution proposing standards" shouldn't be allowed to "slow down or hamper the market... We should also focus hard on how broad" those standards should be and whether they encompass early-entry systems which "will be well on the road to construction before the committee's time table is met."

Safe bet is that those involved in early-entry systems will be working hard to assure that either their standard is chosen or that no standard excludes theirs. Special interests were evident even in appointment of working group chairmen. Following subcommittees and leaders were named: (1) Transmission standards, Jay Ramasastry, CBS (which has strong interest in all systems, even earliest ones, being compatible with High Definition TV). (2) Receiver standards, Paul Heinerscheid, dir. of technical operations for USSB (which holds view that first generation systems would be too expensive with HDTV). (3) Encryption standards, Jeff Krauss, vp-corporate affairs, M/A-Com (which has competing encryption system to Alcoa/NEC that is incompatible with other companies' receivers). FCC source expressed hope that, by first working group meeting at end of this month, vice chairmen of opposing views would be appointed.

Position paper by USSB distributed at meeting set forth problem and explained why, even given conflicting interests, companies involved should resolve differences: "In addition to all the uncertainties that are related to the marketing of DBS... there are technical uncertainties that are such that DBS might never even get a chance to compete in the marketplace if they are not removed or at least addressed in this committee... The greatest risk this emerging industry faces is early fragmentation. If DBS develops into an array of specialized noncompatible services, it will simply never get off the ground."

USSB said that public would look to DBS as viable alternative to cable or regular TV only if compatible signals were beamed to same location. Only then would choice of programs induce consumers to buy expensive reception equipment, manufacturers to invest large sums in antenna production. And only then would enough antennas and receivers be produced to bring costs down. Any standards reached should govern design or definition rather than performance: "The market will determine the appropriate performance necessary to satisfy consumer needs." "If this committee fails to recommend at least some basic standards which could be used by the first DBS operators as guidelines, a de facto situation with incompatible systems could very well be created and DBS will have gotten off to the wrong start," USSB warned.

Despite general unease expressed by participants on direction of committee, little discussion took place on issues such as how to coordinate with groups such as Joint Committee for Inter-Society Coordination's Advanced TV Systems Committee or new DBS Assn. (which will hold organizational meeting Oct. 25 at Four Seasons Hotel in Washington; contact: 202-822-4104). Although couple of participants said after meeting they wanted to explore ways in which group could coordinate with Europeans to reach joint standard, that subject didn't come up in open meeting.

GENERAL INSTRUMENT WILL SUPPLY ALL NORTHSTAR'S GROUND EQUIPMENT

General Instrument has signed deal with Canadian company Northstar Home Theater last week to provide Northstar all subscriber earth station receiving electronics and

addressable/scrambling headend electronics for planned DBS service. Northstar estimates contract could be worth $73 million. Service is scheduled to start in April 1984.

Northstar will use Anik 3 to transmit pay TV and other programming in same manner as United Satellite Communications, U.S. early-entry DBS system. GI is partner with USCI in its venture as is Edwin Jarmain, Northstar pres. Northstar service is aimed at estimated 1.6 million Canadian families living outside cabled areas.

Dishes, mounts and addressable controller decoders will be manufactured in Canada by GI of Canada's Satellite Systems Div., hq in Toronto, as well as by subcontractors. First public demonstration of system was conducted in Toronto Oct. 13 using 1.2-m and 1.8-m earth stations.

GI electronics will retail for $1,500 Canadian ($1,200 U.S.) for equipment package including 1.8-m dish, mount, receiver and descrambler. Service itself will then cost subscribers additional $16-$16.50 per channel, compared to $15.95 cost per channel of average cable system. Northstar's cable offerings will consist of:1(1) Two national channels, First Choice in English, Premier Choix in French with "premium programming." (2) Second channel with regional choices: Star Channel for Maritime Provinces, TVEC French language channel for Quebec, AIM for British Columbia (not yet confirmed). (3) Free channel with regional programming: TV Ontario; Knowledge Network, B.C.; La Fette, French language in Quebec; Atlantic Satellite Network on East Coast (advertising supported). Also proposed by other companies for future on Anik C3: All news channel by Baton Bestg., all sports channel by LaBatt brewer, children's station called "Galaxy" by TV Ontario.

October 31, 1983

NEW SATELLITES UNVEILED AT GENEVA

GENEVA -- Entirely new generation of communications satellites was unveiled here during Telecom 83 exposition. Most dramatic was announcement of 2 new satellites from Hughes Aircraft -- one very large spacecraft with unique design; one very small, designed for economical launch from shuttle. Hughes also was promoting its recently-announced HS 393 widebody spinner -- much like design for Intelsat VI.

Ford Aerospace was not fazed, announcing new satellite concept of its own, called Supersat. Ford's new generation, although more evolutionary than Hughes' revolutionary designs, is modular in concept, allowing customized payloads to be economically integrated with standardized station-keeping and power-supply systems.

Aerospatiale and Messerchmitt-Bolkow-Blohm, working together in consortium called Eurosatellite, were not left out: Officials told us they are preparing new satellite series called Spacebus, which will be "family" of satellites designed -- like Ford's Supersat--for customization to specification of user. Executives of British Aerospace, which was promoting its existing range of satellites, scoffed at its competitors, one official noting that BAe already is in market with designs that can accommodate any predicted user need.

But at Telecom in which satellites played important role, it was Hughes that stole show. Biggest news was Hughes' biggest-ever spacecraft -- designated HS 394 -- which represents radical departure in design from any previous civil spacecraft (apparently, similar design has been used in military satellite, although no details are available because of secrecy classification). Core of system is spinning bus with despun antennas mounted on top -- very similar to Hughes' Intelsat VI. But wrinkle is flat, despun, sun-tracking solar array, which provides spacecraft with 4,000 watts of power. For DBS application, bird could illuminate 6 transponders with 57 dBW power, serving 1/4 of U.S. In effect, spacecraft combines Hughes' proven spinning design with wing-like solar arrays of 35-m span, resembling those employed on traditional body-stabilized satellites.

Big new bird would have been dramatic enough to grab attention at Geneva -- but Hughes also announced new mini satellite -- HS 399 -- designed for small payloads and occupying only 1/14th of shuttle's cargo bay -- enabling post-1985 launch at estimated cost of under $10 million. In some ways, successor to Hughes' HS 333 spacecraft (used in Westars 1-3, early Palapas and Aniks), HS 399 is expected to be typically equipped with 12 C-band transponders using 5-watt traveling wave tube amplifiers. Bird could alternatively be equipped with Ku-band or UHF payloads for mobile links.

At Ford Aerospace exhibit, push was on for Supersat system promising "custom satellites without custom cost." Bird looks much like other recent Ford designs, and indeed is in basic principle same as Fordsat proposed for domestic U.S. communications. New wrinkle is modular payload option, permitting power of 3,700 watts, later up to 6,000 watts, for DBS. With 10-year orbital life (vs. 7-year life for big new Hughes satellite) Supersat can handle: (1) 16-24 Ku-band fixed channels. (2) 6 or more Ku-band DBS channels, with up to 230 watts per channel. (3) 48 channels of C- & Ku-band service, with cross-band switching. (4) 34 channels of C-band with additional channels of maritime or business services. (5) What Ford calls "multipayload" of any combination of transponders.

Supersats are compatible with shuttle or Ariane, with shuttle version using new high-performance propulsion module (HPPM--pronounced hip'-um) upper stage which Ford says will provide unrivaled performance at low cost. HPPM is 2-stage system with perigee & apogee modules. HPPM is being developed by Ford and Aerojet.

Said Alan Parker, pres., Ford Satellite Services: "Telecom has attracted a large number of principals of the management of telecommunications companies. I'm impressed by the activity and interest in services which are being seriously discussed and investigated and a great deal of it centers around the use of Ku-band." Parker said start of shuttle services and prospect of Ariane 4 have had clear impact on satellite design -- driving industry towards bigger and more capable spacecraft.

Most remarkable satellite exhibit was 1:100 scale model of concept for Intelsat I-1A-1, based on space platform described by Arthur C. Clarke in his novel 2010, sequel to 2001. Described as weighing 50,000 kg, measuring 236x245m and assembled in low-earth orbit for transfer to GEO, modular platform could handle 5 million voice circuits, including one million mobile circuits, 176 channels of conventional TV, 50 channels of high definition TV, inter-satellite links and earth-to-moon links. Intelsat said 3 staffers worked for 3 months to define space platform concept. Model, built at cost of $10,000, will be used in forthcoming movie of 2010.

Other satellites on display included scale model of planned DFS German telecommunication satellite, specified with three 90-MHz, 14/11-GHz transponders, seven 44-MHz, 14/12-GHz transponders, single 90-MHz, 20/30-GHz transponder. Intended for launch in June 1987 to 23.5 east with spare at 28.5 east, satellite will have 1,400 kg launch mass, feature 10 year design life. Ariane will launch.

At Eurosatellite pavilion, there was measure of gloom amidst reports that French govt. is close to scrubbing its TDF DBS program. If it does, it could mean end of related German TV-Sat project, and may call into question wisdom of other DBS projects, including Britain's Unisat and Comsat's Satellite TV Corp.

Alexandre Dauguet, deputy dir. of Aerospatiale Information & Communication Div., told us he was somewhat skeptical of new satellite space segment technology advanced by American companies here. He said that Aerospatiale believes it will remain competitive by stressing evolution of current systems and developing "families of satellites" covering more than one market slot. He agreed that all manufacturers are confused about just where space segment market is headed, and to some extent have been forced to adopt concept of adaptable satellites because this is only way to anticipate what users will require.

On question of TDF cancellation, he said that first satellite in series cannot be canceled

because of contractual commitments, but acknowledged that future program is in doubt: "The problem is when and what for TDF-2. It's normal that these questions be raised. Things have certainly to be decided with thought and sang froid. There's no reason to predict that it's inevitably a cancellation." He observed that new Hughes design incorporating solar panels with spinning bus is tantamount to conventional 3-axis stabilized satellite with twist: "The inertial wheel is inside out."

RCA Astro-Electronics did not exhibit here -- only major civil satellite manufacturer not present.

Final notes: American satellite executives were intrigued by 2 developments discussed in corridors here: (1) That Japanese govt. will permit private companies to buy U.S.-made satellites. (2) That Chinese are back in market for imported satellites. It wasn't clear what practical effect will be of either development.

DBS ASSN. FORMS IN WASHINGTON WITH HIGH HOPES BUT AMIDST SAME INDUSTRY CONFUSION AS SIMILAR GROUPS

Yet another DBS organization has been born. And after afternoon-long meeting at Washington's Four Season's Hotel, new DBS Assn. didn't seem to offer much more promise than other groups of being able to bring DBS industry to standards consensus before commercial systems are in operation.

John Egan of Coopers & Lybrand, one of group's founders, said: "We've gone out of our way not to predestine what this association is designed to do," and ultimate direction will be determined by membership. But he went on to outline Assn.'s bylaws, which emphasize leadership role of broadcast satellite service band DBS system operators, as distinguished from so-called medium-power, early-entry system operators in fixed service band. Egan said group would seek to protect interests of high-power service, though all would be welcome. He and others also made it clear that their goal is to at least try to fix voluntary standards as soon as possible so no de-facto patchwork of equipment and transmission standards will handicap latecomers to DBS market.

Harley Radin, vp, DBS Corp., said: "Tens of millions of dollars must be invested" in equipment factories and programming and system design in next few years, and capital-intensive industry like DBS can't afford to leave crucial standards questions up to marketplace. Because DBS is attempting to launch state-of-the-art transmission system for entertainment and other services, it's an "incredibly interdependent" business venture, he said. He gave example of possible decision by maker of ground equipment which would only pick up 16 channels; if someone else were to come along and want to offer one more system, he could be at mercy of that manufacturer, could be discouraged from entering DBS market because available receiving equipment wouldn't accommodate his service. So market forces could limit consumers' choices unnecessarily, he said.

Standards would fall into 3 categories, Radin said: Service aspects of systems, such as areas to be served, minimum performance ratios; system aspects such as terminal antenna and receiver, encryption systems, hardware and software interfaces with many service options; signal formats, including question of whether to use MAC signal format or adaptation and whether such system would be compatible with foreign systems, and number, location & types of audio channels. Some standards will best be chosen by marketplace, existing as they do in proprietary domain, Radin said, but wouldn't elaborate on what was "crucial" to coordinate ahead of time.

Radin expressed disappointment with FCC industry advisory committee which, because it was organized along "topical lines" (encryption, transmission standards & reception standards), he said offers "no hope" of recommending integrated, usable industry standards. "We can't take the chance that the committee won't recommend any standard, that the FCC if offered standards won't adopt them or that there'll be no system integration," Radin said.

Others also expressed reservations with DBSA. Orest Hanas, vp-Satellite Systems Div., Oak Communications, seemed troubled with notion that those present were gathering to discuss standardization of systems that exist in theory only: "They haven't been tried in the marketplace -- how does anybody know for sure what's going to work." In nutshell: "A camel is a horse designed by committee," Hanas said, and it might be wise to stand back until first systems have shot at commercial marketplace before standard is proffered. Frank Drendel, vice chmn., M/A-Com, expressed displeasure that backyard TVRO market didn't have standing in new organization: "All I know is that there are 800,000 people out there with dishes big enough so that you could pick up DBS signals using a wet finger... They may be the only real customers" for DBS-type services, he said.

Jovially, another attendee suggested consumers use their big dishes to keep rain off their more compact DBS receivers. Egan said association was "willing to welcome them [TVRO ownership groups] in," but that he didn't know of any major DBS corporation interested in marketing low noise converters so larger dishes could be used for DBS.

All eyes were on Judith Shannon of Satellite TV Corp., an acknowledged early leader in DBS, when she explained what STC was seeking from new group. Company's acknowledged interest was for group to act as tool to stimulate public awareness of DBS: "It's in all our interest... We can't afford to confuse the consumer. We must convince [him] there's a sensible plan here." Several questions from audience made stab at determining how much DBSA will be influenced in its recommendations by what technical criteria STC uses in system it launches next year. Egan said: "STC, or anybody else for that matter, can come along and put out anything they want to... We're after voluntary standards, after all." Shannon responded to query: "It's true we must move ahead quickly," but said ground equipment should be compatible with as many systems as possible.

Other details: Group is organized in Washington as non-profit corporation, has no plans to register as lobbyist but will perform many of same functions. Initial dues will be $5,000 yearly for active members, including system operators in BSS band, program broadcasters (Skyband, being in FSS band, anomalously falls into this category), space segment suppliers and providers and ground component suppliers. Associate members, including trade publications, law firms, consultants, spacecraft hardware suppliers and all others "interested in the development and growth of the DBS industry," will pay $500 yearly. Only active members will have vote. Contact: Committee to establish DBS Assn., 1800 M St. NW, Suite 210, Washington, D.C. 20036, 202-822-4066.

Satellite Business Systems has ordered 2 more satellites from Hughes Aircraft's Space & Communications Group at total cost of $100 million. SBS-5 and -6 will operate in Ku-band as in first 4 of series, but last 2 will incorporate "significant improvements": (1) Doubled communications capacity achieved by 4 wideband transponders, each with bandwidth of 110 MHz, in addition to 10 transponders of 43 MHz bandwidth each. (Ten 43 MHz transponders will transmit down with horizontal polarization and 4 110 MHz transponders will transmit down with vertical polarization, demonstrating frequency reuse.) (2) Dual polarization permitting 10 narrowband transponders to share same frequency band with 4 wideband transponders. (3) All 14 transponders will have nominal power of 20 watts each for total of 280 watts of transmitting power, but 3 wideband and 2 narrowband transponders will have capability of operating with parallel traveling wave tube amplifiers (TWTAs). Satellite will thus be able to redistribute total RF power and increase power on those 5 transponders to 40 watts each. (Earlier satellites had maximum of 200 watts transmitting power.) (4) Ten-year design life instead of usual 7 or 8. SBS-5 is scheduled for delivery in June 1986 for space shuttle launch late that year into slot at 124 degrees west. SBS-6 will be ready 6 months after SBS-5, will serve as ground spare until needed, perhaps to replace SBS-1, launched in Nov. 1980 and expected to last until 1987. Satellites will be "optimized" for shuttle launch, but will have backup compatibility for launch by expendable launchers. Contract includes 2 PAM-D motors which function as perigee kick motors from low earth orbit. Satellites' longer lifetime comes from improvements in TWTAs, batteries, solar array efficiencies and improved station-keeping subsystem adding 144 lbs. to total weight (1,193 lbs.). SBS-4 is scheduled for launch in Aug. 1984. Satellite TV Corp.'s early-entry DBS service will make use of that satellite; SBS has applied with FCC for

permission to change initial orbital location for SBS-4 to 101 degrees, slot for which STC intends to apply as home for high-power DBS satellite. SBS-4 then would be moved when later satellites were launched. No customers have been announced for SBS-5.

General Instrument is making further inroads into DBS market, signing $9 million contract with Private Satellite Network, third DBS contract GI has won. Contract calls for GI to supply earth stations and headend electronics that are addressable and capable of scrambling. PSN is targeting business users for its DBS service over medium-power KU-band satellite; GI is minority venture partner in service announced earlier this month. Earth station receiving equipment GI will supply includes dish antenna for scrambled signal, low noise amplifier and block down-converter plus indoor receiver and addressable decoder. Equipment will be manufactured at GI's Satellite Systems Div. in Toronto. Meanwhile, GI board declared quarterly dividend of 12.5 payable Jan. 4.

European satellite-delivered cultural cable channel is being planned by BBC, concert management company Harold Holt and merchant banker Morgan Grenfell, according to U.K. reports. Three have formed joint venture to explore launching channel named European Music Satellite. Ian Hunter, Harold Holt's managing dir., and Noble Wilson, BBC TV chief asst.-international development, are conducting feasibility study, will meet with opera & ballet companies, orchestras & broadcasters to determine program availability & cost. Plan is to offer channel throughout Europe, initially by low-power satellite to cable headends. Later, service might be delivered by DBS. Wilson said he thought channel would be financially viable even though similar services in U.S. & Canada had folded.

Canada's Anik C2 has successfully been moved from Canadian orbital slot to GStar 2's U.S. slot where 2 satellites are now co-located. Move was to enhance United Satellite Communications' planned low-power DBS service. Programming thus can be provided to first subscribers of USCI's service in same location from which it will ultimately be beamed so antenna repointing won't be necessary. USCI paid Anik for cost of moving satellite to U.S. slot, will also bear charges of its return to Canadian home.

FCC has put application of Satellite TV Corp. for feeder link facility in Las Vegas on public notice. Facility will be combination domestic satellite operation and DBS uplink. Application specifically asks authority to construct 2 large (13-m) 17 GHz antennas for uplink and tracking, telemetry & control of DBS system, four 7-m antennas to receive programming at 4 GHz and two 7.7-m transmit-receive earth stations at 12/14 GHz.

November 7, 1983

'COMPETITION' AS MUCH AS 'COOPERATION' IN ORBIT MARKS IAF CONFERENCE

BUDAPEST -- "Cooperation in Space" was announced theme of 34th Congress of International Astronautical Federation here but among the more than 750 attendees from 35 countries, many with launch systems and satellites to sell, there were many who were more interested in competition than cooperation. There are examples of both in this report from our European correspondent.

Communications Satellites

Eutelsat is looking for manufacturer for 2nd generation of satellites. RFPs for 18-transponder, 20-watt satellites will be released next year. Schedule may have been accelerated by Luxemburg's expansionist plans.

French/European ATHOS (Application Technologique Hyperfrequence en Orbite Synchrone) will fly Ariane 4 demonstration launch, weigh 1,450 kg in transfer orbit and 877 kg in geo. Multimission payload will include eight 36-MHz, 16-watt C-band transponders, high gain spot beam antennas shooting for EIRP of 36-39 dBW within coverage zone, telecommunications experiments in connectivity between European countries, between Indian Ocean region

countries and between Europe and Indian Ocean. Bird will also have three 30/20-GHz transponders with 4-GHz microwave switching matrix using 25-watt TWTAs developed by Thomson-CSF and experimental module for propagation measurement in 20/40/90 GHz bands -- first time 90-GHz beacon will be used in space. Some 1,250 total watts will be needed by satellite.

Soviets, too, have been conducting high-frequency experimentation in 30/20 GHz by means of its Lutch geostationary satellite launched in 1982. Data has been gathered at Dubna installation and at test sites operated by some Communist countries participating in program. New test site is also being installed along Black Sea coast for studies in higher rain attenuation.

Satellite TV in China: China's representative from Institute of Bcstg. Science, Ministry of Radio & TV, described DBS as best way to meet needs of TV education in his country. Satellites have advantages over terrestrial systems in China of large coverage over varied terrain; fewer transmitting jumps and thus higher quality in reception; network takes less time to build and requires less capital investment; system saves on maintenance personnel and costs but offers greater reliability. Country's first step will be satellite transmission for community reception then retransmission by radio or cable. China has developed 1.8m-3m dishes for such use. After national distribution of educational programming is thus possible, local programming will be developed beginning with multiprovincial beams.

China specifically plans to launch STW-2 in 1984 to position at 125 degrees east with Chinese CZ-3 launcher. STW-2 will weigh 900 kg at launch, is equipped with 2 C-band transponders having 10 watts of output each -- one for telephony and telex, 2nd for TV. STW-1 will be launched later to 70 degrees east slot. Development of CZ-3 is slower than planned because of problems in qualification of cryogenic 3rd stage. In 1987, China hopes to introduce operational DBS network with 2 Ku-band satellites which it will buy overseas. Country has already submitted requirements to U.S., Germany & France, hoping for their industrial support. Two DBS birds, one active and one spare, will be equipped with 200-300-watt TWTAs to transmit one color TV channel with 3 sound channels. So far, only Germans have responded to Chinese RFP and this response probably will serve as basis for deal between the 2 countries. In meantime, China will use Intelsat satellite facilities.

Elsewhere, Hungary, East Germany, Poland, Czechoslovakia, Bulgaria & Rumania have studied joint DBS project, are seeking financial support.

PERFORMANCE OF DBS RECEIVING EQUIPMENT SHOULD BE LEFT TO MARKET, FCC WORKING GROUP DECIDES

Performance of dishes and other equipment for use in DBS systems won't be issue for standardization at FCC -- at least, not if opinion of Commission's receiver standards subgroup of advisory committee on DBS technical standards counts for anything. Decision by subgroup this week was somewhat preliminary, but industry members of panel were overwhelmingly in favor of letting marketplace decide such things as how good reception quality of DBS equipment should be.

Such choice will vary depending on where in country system is located (how much rain attenuation could be expected) and how much consumer wants to pay for receiver, panel members said. What committee will concentrate on are issues of interference and compatibility of receiver systems, subgroup Chmn. Paul Heinersheid of U.S. Satellite Bcstg. said. He said interference includes such matters as emissions from receiver and effect of other radiations from inside home on receiver itself: "We won't deal with satellite to satellite interference or on satellite to ground interference--those things were dealt with in the RARC agreement."

First meeting of receiver subgroup was otherwise marked by vastly divergent views -- several at meeting making it clear that they favor as little standardization as possible of new industry. Harley Radin of DBS Corp. asserted: "We regard system compatibility as the major

issue" in standardization. Conversely, representatives from Satellite TV Corp., which will be among first in operation with DBS system, said they favor guides on basic signal and equipment standards (like interference) but not on system compatibility. Texas Instruments representative Gene Robinson demonstrated keen interest in standardizing "antenna subsystems" so consumer would have choice of buying dish from one manufacturer and other system equipment elsewhere. Trinity Bcstg.'s Colby May, one of few programmers present, was one of few who said he favored as much standardization as possible.

Two other FCC subgroups, on encryption and transmission standards, haven't had first meeting yet but chairmen of respective groups have given some direction. Jeffrey Krauss of M/A-Com, encryption chmn., in memo to overall committee Chmn. Stephen Sharp, said his group would have to confront "willingness of vendors to disclose and license second source production of proprietary methods and designs" to be effective. Memo by transmission standards chairman Jay Ramasastry of CBS to Sharp seemed to crystallize one issue for his subgroup, asserting: "The RF tuner FM demodulators shall be defined as being constructed so that an additional device can be simultaneously operated to provide HDTV service."

Next meetings will be held in late Nov., encryption group meeting Nov. 21, transmission group morning of Nov. 22, receiver group meeting that afternoon.

SBS, in response to Western Union's opposition to its using orbital slot at 101 degrees west temporarily to provide service for Satellite TV Corp.'s DBS system, said WU's complaints might be solved if 2 issues were handled together. Ford Aerospace Satellite Services also opposed SBS plan, to which SBS responded that it won't disrupt either FCC orbital spacing plan nor could it affect Fordsat even if company were given slot of 101 degrees west after next group of filings is dispensed with: "Such a satellite could not be operational before late summer 1987... it is highly unlikely that SBS's temporary use of 101 degrees west will in any way interfere with the Commission's present or future orbital assignment plans or with Ford's hopeful use of that location."

FCC has denied petition for stay filed by U.S. Satellite Bcstg. of 1982 order authorizing GTE Satellite's lease of Anik C transponders from Telesat Canada. Commission thus reaffirmed plan by United Satellite Communications to offer DBS service via Anik transponders while awaiting launch of GStar satellite.

November 14, 1983

MURDOCH ABANDONS MEDIUM-POWER DBS, DEFERS SKYBAND UNTIL 1985

Skyband, Rupert Murdoch's entry into medium-powered direct-to-home satellite delivery, will "delay inauguration" until "new generation" of high-powered satellites from either Hughes or RCA, using 45-50 watts and offering 16 channels, become available in 1985, Skyband Pres. Harvey Schein said last week.

Announced last May and scheduled to begin first this fall, then in June 1984, proposed 5-channel DBS was to be aimed primarily at rural homes. New service will lose rural orientation, cover nation with 8 channels for eastern feed, 8 for west. Some 30 million non-cabled homes will remain primary objective, Schein told us, but cabled areas will be targeted as well. Delay would give company "more time to assemble the best programming, to test customer preferences and to work with equipment manufacturers," also "to test and thoroughly evaluate ground reception equipment -- none of which had been mass produced to date."

Satellite Business Systems' $75-million 6-year lease for 5 transponders from Skyband was "firm contract," according to SBS official, and company had no comment to make on any alterations or cancellations of contract, he said. Monthly payments on lease began in Oct., he added. Skyband officials had no comment on plans for original SBS commitment.

M/A-Com had "no comment" to make on news, released to it day of Skyband's announcement. Official said company intended to continue to supply DBS equipment to any interested party and wasn't clear on status of consulting agreement contract between Skyband and M/A-Com announced earlier this fall. Relationship with M/A-Com wasn't exclusive to begin with, he said. Dishes for later service will be "one meter and hopefully smaller than that," he said. Recent purchase by News Corp. Chmn. Murdoch of Chicago Sun Times for hefty $90 million "was absolutely not a factor" in changing plans, Schein told us. "I should have put that in the press release." News Corp. has resources to handle "Sun Times, DBS and many many other projects," he added. New plans, in fact, will be more expensive, he said. Decision hadn't been reached between RCA and Hughes systems, he said. Programming would be usual mix of movies, sports, news, variety.

Explaining decision, Schein told us: "We started to look at the situation and we saw how fast the technology was moving and we felt that with a 25-watt bird we wouldn't be able to come up with the best possible service." He added: "Let's face it -- our preparation has been limited because of our recently getting involved in this." N.Y. observers had noted that Murdoch seemed to be confused about direction of early-entry DBS, and had been seen conferring with competitor United Satellite Communications Pres. Nathaniel Kwit earlier in fall. "After analyzing it and studying it," Schein said, "we said wait a minute -- let's not go sooner than we should." Addition of 3 channels and national coverage, along with smaller dishes, are advantages to delay, Schein said.

Cable programming shakeout was "one of the things that was of concern to us," Schein said. "First this channel is gone, then that one is gone -- we'd really like to see this thing shake out first and see some logic and sense to it." Satellite TV Corp. will remain competitor, since their late 1984 entry for medium power DBS and Schein's 1985 entry are only "few months" apart, Schein said.

Other industry sources say Murdoch is out of DBS arena for good. "I think Murdoch expected to be able to walk in and put HBO or Showtime on DBS," one told us. "When he realized he'd have to set up a whole organization, with program origination facilities and interstitial programming and all the rest, he backed out." Said another: "They're going out of business, not postponing." Schein denied rumors, asserted that there would be no "bloodletting" of fewer than 25 Skyband employes.

SBS said that it has firm, "secure" contract from Murdoch organization for 5 transponders, that payments have started. SBS said contract, valued at more than $1 million per month, can't be canceled, but that Murdoch organization is free to assign capacity to other users.

USCI DEBUTS SANS 2 OF 5 CHANNELS

Indianapolis startup for United Satellite Communications Inc. (USCI) Nov. 15 will begin with only 3 of 5 channels programmed, according to USCI official. Two will be movies, one ESPN sports programming. Remaining channels are pending deals which may be consummated at any time from 2 weeks to 2 months, we're told. Cable News Network and Music TV are reportedly in negotiations for remaining slots.

RCA Service Co. will service & install General Instrument equipment, using its 2,800 technicians in 168 branches. Agreement is considered important step by cable & DBS insiders. "I always thought that was the biggest thing they had to accomplish," one told us. "Having that is a big ace." RCA Service agreement covers all of U.S., though experiment is confined to Indianapolis.

Installation of dish reportedly takes 2 men half day, will probably amount to hefty $300 initial fee, plus additional $30-$40 monthly price tag. Monthly fee will include lease of dish, along with charge for 3 channels at discounted rate, customers being told that this amount is less than "normal" 5-channel cost. Company estimates 150,000 customers by end of next year, according to one report, but projections are in some flux as company finds its way in new

territory. "They found their early projections were way off base," one cable programmer told us.

On programming side, HBO has sold DBS rights to USCI on 20-30 pre-buys, Orion and original product available in 1984, including Sophie's Choice, Megaforce, Breathless. Sales indicate HBO has no K-band plans at least through most of 1984, though product is still available for higher-powered Galaxy bird which HBO began transmitting from this week. USCI said it has struck deals with all major studios, but with program suppliers reportedly calling shots on prices. One source called rates "exorbitant," comparable to STV's, at 50-$1 per subscriber, depending on movie quality. ESPN, which is in process of renegotiating higher charges from all of its affiliates, got 40-50 per subscriber.

Cable News Network may be most expensive deal of all. CNN, which had been reported in "handshake deal" last spring with USCI, is now only game in town for 24-hour news channel USCI has said it wanted. Previous dealing between now-defunct Satellite News Channel while talks were ongoing with CNN apparently alienated Turner, who is now asking for equity in channel to offer either of his news services.

Medium-power DBS transmission works -- company has been testing dishes to selected homes in last few weeks. "It's a quality picture," we're told. However, Anik-C transmission will, by some reports, not be addressable, unlike GStar planned for later in 1984. Lack of addressablity may cause problems in terms of regional blackouts in sports events.

Sales will be handled by "telemarketing and direct mail," official said. At moment, RCA Service in Indianapolis reports it's had one call from interested customer who read about business in morning paper.

Backyard satellite receiver market will at least double, possibly triple, in 1984, according to Channel Master Mktg. Vp Donald Berg. Sales, primarily to consumers outside areas served by CATV, will top 200,000 units at $600 million retail this year, he estimates, claims that's double or triple 1982 volume. Outlook is for 1984 sales of at least 400,000, making home receivers billion dollar business. Berg says figure is conservative compared with other industry estimates running up to 600,000. As for competition from new DBS services, Berg says he feels consumers will find spending $2,000-$3,000 for system that will pick up as many as 80 channels is better deal than paying $30-$40 monthly to receive 5 channels.

FCC made over 1,000 changes in its allocation scheme to reflect rules adopted in Final Acts of 1979 World Administrative Radio Conference, accepting WARC's definition of DBS which includes more than just video services. Commissioners discussed plans to move towards scheme which would view both high and low power DBS as same so far as regulation is concerned.

Satellite TV Corp. is establishing Minority Enterprise Small Business Investment Corp. to generate long-term loans and equity capital in business related to STC's DBS service. Initial investment of $1 million will come from Comsat, with Small Business Administration to leverage this amount to total of $5 million.

November 21, 1983

DBS DEBUTS IN INDIANA; HBO & WTBS CONFIRM JOINT SMATV/DBS PLANS

Week of start of United Satellite Communications Inc. service in Ind. also marked confirmation from WTBS Atlanta and HBO of long-rumored plan to use Galaxy 1 transponders for quasi-DBS service, targeted at uncabled areas, possibly for launch by summer next year. At same time, there were strong hints that Time Inc. would kill its teletext venture, indicating that internal competition between satellite video and teletext groups in Time Video Group for use of heretofore uncommitted Galaxy transponders had concluded with DBS winning out.

"This [Turner] thing is not a go, by any means," HBO official said. "There's not a deal -- there are conversations going on." Turner and Time own transponders on Hughes satellite launched this summer. Potential service could combine WTBS, CNN, HBO & Cinemax. Service is hard to define because lines between DBS and SMATV are so fuzzy, but, based on what we're told by principals in deal, venture looks to be effort by both programmers to expand their cable universes by offering transmission to smaller dishes, either in SMATV mode or direct to consumer. Official of one company said that "fancy kind of SMATV" planned could draw as many as 5 million subscribers in uncabled areas. Same official claimed to have seen demonstration of Galaxy transmission on 3-1/2-ft. dish which yielded "excellent" picture. That dish size is usually considered to be too small to get good SMATV reception from regular-powered satellite and too large to mount on individual consumer's roof.

Specifically, USCI's Anik transmits 20 watts, uses around 3-ft. dish. Galaxy is putting out around 9 watts, which engineers say functions best with around 6-ft. dish. Official did remark that service wouldn't neglect "the 1/2 million or so" owners of 6-ft.dishes. Venture would help explain why Ted Turner has seemed reluctant to make deals with other DBS system providers who want to carry CNN or WTBS. Source said plans for venture so far aren't excluding either party from making deals with other DBS operators, that this, too, was subject of discussion.

Satellite Plan Linked to Scrambling

HBO's designs on DBS can be traced to ambitious signal scrambling plans under way although several months behind schedule. M/A-Com Linkabit digital encryption technique to eliminate signal piracy, as noted then, could just as easily be applied to DBS -- use now acknowledged by HBO official who told us "we wouldn't initiate the service until mid-1984 when signal is scrambled nationwide." Scrambling, at cost of $8 million, was to be in place by early 1984, but $1,000 decoders won't be delivered to west coast HBO affiliates until Jan., to east coast by midyear. Cinemax isn't included at present.

"Cable operators would play a critical role in distributing such a service, if, in fact, such a service gets off the ground," official said. HBO benefits by soothing affiliates' ire at use of competitive medium and by perhaps resolving some legal questions. If it can point to new service as extension of cable, rather than entrance into another medium, HBO might be able to validate claims that DBS is included in pay-TV distribution rights it has acquired. Studios disagree sharply, but "we believe that the current licensing agreements include [DBS] rights," HBO source claims. For some programs, such as titles licensed to USCI, it does.

WTBS is also planning to scramble signal, and will delay any firm DBS plans until that's in effect, Turner official confirmed. Scrambling system would be installed by 2nd half of 1984, he said. TBS Chmn. Ted Turner had been stressing openness to possible DBS applications in recent speeches. At earlier speech at TV Academy in N.Y., he said: "I don't think cable has the slightest thing to fear from DBS... It will make the same sort of thing available to everyone." WTBS Pres. Robert Wussler noted then complex legal questions of WTBS carriage by DBS system, which may require service to be ruled common carrier, and is main reason WTBS didn't service channels on USCI.

DBS Debuts in Indy With Stiff Competition

Meanwhile, USCI beamed its 3 channels of movies & sports, 2 channels of UPI news and program listings mixed with music videos from Anik-C to 33 county area surrounding Indianapolis, beginning Nov. 15. On that day, there were no subscribers, according to USCI, which said marketing effort would now begin in earnest. But fledgling firm faces stiff competition in Indianapolis area according to local newspaper TV columnist.

Richard Shull, Indianapolis News TV writer, said he had many calls from potential USCI customers comparative shopping. He said viewers with 8-ft. C-band dishes supplied by 2 local companies told him their systems were cheaper than USCI's. Viasat and Omega Satellite, based in Indianapolis, offer 8-ft. dish installation for $200 with monthly fee of $39.95. Same operators sell dishes for around $1,800 and for $500 more offer remote control rotor to turn

dish to other satellites. USCI's installation charge is $300 with same monthly fee. "The point I'd make is that they [USCI] aren't creating a sensation out in the backwoods. We have some very sophisticated viewers here." Shull's own trips to rural Ind. uncovered many large dishes, some which dwarfed adjacent house trailer or shack: "We don't have the same trouble as urban areas where dish size is a prime consideration. Here you can put your earth station out in a hog lot and not bother with it."

USCI lists 1-800-225-USCI as subscription phone number in Ind. Slick 60-page program guide with color photos lists films which had been shown on pay cable -- Rocky, Monsignor, Breaking Away, Diner. Channel called Movietime carries recent hits; 2nd, called Showcase, has rock concerts, old movies, etc. ESPN was added too late to be included in first edition of guide. USCI signal isn't addressable or scrambled, won't be until it's moved to stronger GStar satellite in 1984. Test installations in N.Y. and Washington which are in Anik-C footprint also currently receive signal, USCI said; there are currently 200 test households in total of 26 states.

Disney Channel last week sealed agreement for 2 transponders on Galaxy 1. Terms weren't disclosed, except that transponders are considered least preemptible of 6 preemptible on Galaxy 1 -- status based on purchase price. Disney Channel will offer 16 hours of daily programming designed for family entertainment. There are 3 channels left in final negotiations for purchase, Hughes spokeswoman said.

COMSAT DIVESTITURE IS TARGET OF HOUSE BILL

Two Democrats on House Telecom Subcommittee Nov. 17 began legislative drive to force divestiture by Comsat of its competitive units. Reps. Bryant (D-Tex.) & Markey (D-Mass.) introduced legislation that would require Comsat to divest itself of all competitive activities, leaving it with Intelsat & Inmarsat operations only, and would require Comsat to turn over information it receives in that role more quickly to other manufacturers and carriers.

Bill doesn't make any provision for competition by private companies for Intelsat space segment, deals only with reach of Comsat in U.S. into competitive marketplace. Most directly affected would be Comsat's interest in Satellite Business Systems, DBS company Satellite TV Corp. and equipment arm Amplica, which doesn't yet make satellite antennas but will soon market full line of telecommunications equipment.

Comsat was briefed on measure shortly before legislators went public with proposal Nov. 17. Company has issued lengthy statement commenting on bill and Markey's challenges that Comsat engages in anticompetitive marketing practices that contends: "To the extent that Mr. Markey alleged that Comsat has abused its trust as the U.S. party in the Intelsat and Inmarsat satellite systems by providing its own competitive businesses with favorable treatment, he is ill informed." Citing FCC study, Comsat said: "Several recommendations and suggestions designed to eliminate even the potential appearance of unfair practices were implemented into a subsequent Comsat restructuring."

GTE Satellite and FCC filed respondents brief in U.S. Court of Appeals, D.C., recently in case brought by U.S. Satellite Bcstg. protesting Commission's permitting GSat to lease Canadian satellite capacity for United Satellite Communications Inc. USCI launched DBS service via Anik satellite last week.

November 28, 1983

FORD AEROSPACE SIGNS MEMO WITH DBSC TO BUILD DBS SATELLITES

Direct Bcst. Satellite Corp. (DBSC) has chosen Ford Aerospace & Communications Corp. to build its high-power DBS satellites, becoming 2nd DBS licensee after Satellite TV Corp. to pick satellite manufacturer. Memorandum of understanding, not final contract, has been signed, according to DBSC Pres. Wilbur Pritchard. Companies are "still in that delicate arrangement

stage" which will determine how much company has to put up before construction start and other details, Pritchard said. Pritchard wouldn't comment on how much money, if any, company had to front for construction.

Agreement posits 2-satellite Ku-band system with option for spare, first for delivery in early 1987. Contract would be valued at around $170 million, plus performance payments. Each satellite would have capacity to beam 6 channels to half-CONUS, plus additional 4 channels to selected metropolitan areas. Additional channels would be result of 3 movable spot beams on each bird, which could target Alaska, Hawaii or Puerto Rico. DBSC also has agreed to launch its satellites on French Ariane rocket. Transponders will be available on common carrier basis. DBSC is only holder of DBS license with such marketing scheme.

Two satellites, each of which will weigh around 2,800 lbs., will have design life of 10 years. Actual transponder capacity and redundancy hasn't been determined. Ford Aerospace's Western Development Laboratories Div. is in Palo Alto, Cal.

Private Satellite Network's low-power DBS services will start operating in Washington in Jan., according to company spokeswoman. So-called "Institutional DBS," will allow businesses to uplink from Washington via Communications Technology Management's video microwave system and satellite uplink in Alexandria, Va. Videoconferencing-type transmissions will be scrambled, then transmitted across country. N.Y. will also have Ku-band uplink facilities. Companies will begin experimenting with service in early Dec. By PSN's operational debut in mid-Jan., there will be 25-30 4-6-ft. receive antenna sites across country. Company will use SBS-1 Ku-band satellite for DBS-like transmissions.

Fairchild Control Systems, division of Fairchild Industries, has received $300,000 contract to develop and build propulsion system regulators for Unisat Communications Satellite program. First Unisat DBS bird, to be launched in 1986, will be used by BBC. Fairchild previously built regulators for Olympus.

December 5, 1983

DBS ISSUES DOMINATE OPENING CEREMONY AT HBO COMMUNICATIONS CENTER

HBO has negotiated for DBS rights to movie product from all studios but Paramount and MCA, Pres. Frank Biondi said last week at opening ceremony of new multimillion Hauppauge, N.Y. HBO Communications Center. Four of 6 majors have agreed to include DBS in pay-TV negotiations for 1984 now under way, he said.

"Mel Harris [Paramount Video pres.] is waving the flag on this one," said Biondi, calling "essentially correct" L.A. Times report that he threatened to cancel HBO's scrambling plans if DBS rights weren't given. His comment: "We're saying: 'Look, guys, there's no urge to scramble if there's not a business out there.'" He also noted company's direct-to-home plans have "no deadline -- it's a totally fluid thing."

HBO Network Operation Senior Vp Edward Horowitz said plans were "technically & operationally" ready to begin shipping dishes next month, though he admitted $8-$10 million project was 2 months behind schedule. "That's what happens when you go from drawing board to reality," he said. In fact, scrambling plans appear not only ready, but to have been rejiggered for maximum effect against United Satellite Communications Inc.. Scrambling will begin in east coast test of 700 systems, Horowitz said, rather than Jan. west coast rollout, as originally planned. He denied duplication of USCI footprint had anything to do with change of plans.

Biondi termed USCI "not a real business," said it wouldn't be for another 1-1/2 years. DBS rights were sold on original HBO product and prebuys to USCI "for real money" through 1984 on non-exclusive basis.

Former Time Inc. Pres. James Shepley, for whom center is named, pointed HBO in direction of DBS with speech in praise of K-band satellites. "The K-band is a brand new game,"

he said at ceremony featuring former, present & future HBO presidents. It will be "more economical than in many places where cable operators can string wire... Obviously this has enormous implications for Time's choices in the video future -- for HBO and for ATC."

Facility has 2-way capability to communicate with England, which could be used in HBO U.K. plans, Horowitz told us. However, copyright, regulatory & political complications will make it difficult to beam HBO programming directly to other countries, we're told. RCA Vernon Valley, N.J. satellite transmission center, which HCC replaced, had no such capacity. Facility cost more than $15 million -- $6-7 million for building, $7 million in electronic gear which HBO purchased directly, as estimated by center's architectural firm Lee Pomeroy.

"We wanted to be sure that our technical destiny wasn't constrained by someone else's plans," Horowitz said in explaining motivation for building HCC. Serving east & west coast feeds for HBO & Cinemax and regular & backup feed for USA Cable Network, space-age center comes complete with "Scotty," -- Scotty Tipton, who demonstrated ability of dishes to receive Galaxy 1.

Tipton noted smallest dishes capable of receiving Galaxy 1 being experimented with by HBO were 6-8 ft. However, Scientific-Atlanta representatives told us 4-ft. dish could get Galaxy 1 C-band with proper amplifier. However, HCC has no small dishes yet. Five-ft. dishes are "coming," Horowitz told us.

Irish Govt. is seeking proposals to provide DBS satellite service for Ireland. Request for proposals (RFP) has been issued to 14 companies who've expressed interest in DBS -- only 4 of which are reportedly Irish firms -- but proposal is open to any party. Irish Telecommunications Ministry wouldn't release names of those receiving document. Proposal leaves much open to creativity of applicants but specifies that system should provide telecommunications capacity in addition to DBS. U.S. firms are known to be interested in participating in project, but govt. is likely to put premium on benefits to Irish economy through employment, technology transfer and possible Irish manufacturing role. Part of service's appeal is what ministry called "overspill" into England and other parts of northwestern Europe (Denmark, Sweden, Netherlands and France. Ministry sources speculated that service will consist principally of movies and other fare common to U.S. pay-TV. Technical specifications will follow guidelines of World Administrative Radio Conference in 1977 which awarded country 5 DBS channels. Proposals are due July 31 with service projected to start in 1987.

NAB filed reply comments last week in its appeal (along with L.A. County) of FCC's DBS decision. Filing, made in U.S. Court of Appeals, D.C., argued that: (1) Development of new technologies doesn't alter Communications Act's bar to non-local broadcast services. (2) Comsat (whose subsidiary Satellite TV Corp. has been awarded DBS license) isn't authorized to act as broadcaster. (3) Commission and STC still haven't adequately considered issue of how much Comsat is cross-subsidizing STC with charges to ratepayers. (4) No adequate explanation has been given for exempting STC from ownership restrictions that apply to terrestrial TV licensees. (5) Failure to hold Carroll hearing hasn't been justified. (Carroll Bcstg. v. FCC decision said that "competitive effects may under some sets of circumstances produce detriment to the public interest." NAB contends that DBS will have detrimental effects on subscription TV and local stations.) (6) FCC prejudged outcome in DBS issue in "rush to judgment."

Digital stereo sound for TV transmissions is expected to be announced in Dec. by 2 DBS companies. Audio system was been developed by Dolby, involves digital signal transmission from satellite, converted to standard analog system at home terminal.

December 12, 1983

RADIO SHACK TO BE USCI'S SOLE DBS SALES AGENT

United Satellite Communications Inc., which claims to be first company to launch U.S. DBS system, has chosen Radio Shack as exclusive sales agent. Companies have signed agreement in

principle designating Radio Shack "exclusive retail sales agent" for USCI. Agreement lets retailer sell USCI's "Home Satellite TV Service" in Radio Shack stores and participating dealers located in areas where company's DBS service is offered beginning in Jan.

USCI service was launched in Nov. in Indianapolis area, has branched to 3 new cities: Terre Haute, Ft. Wayne & South Bend. Reports from USCI operators in Ind. that service has branched out into Mich., O. and other adjacent states isn't true, USCI official told us. Company has said there are test homes scattered throughout coverage area comprised of 26 states east of Rocky Mountains from Me. to Tenn. Company also said it plans to expand coverage to entire west coast next year.

Under terms of deal, Radio Shack won't actually stock 2.5-4-ft. dishes -- RCA Service Co. will continue that task -- but it will "be providing the explanation of the product," according to Radio Shack Exec. Mktg. Vp Bernie Appel. Radio Shack will offer customer option to purchase dish for $600-$700 (exact price to be confirmed), with additional monthly programming charge of roughly $25. Customer also can choose current leasing arrangement, getting dish for all-inclusive $100 installation fee and $40 monthly. Radio Shack gets unspecified commission on both leases and sales. "We think our people are skillful enough to be able to sell it well," Appel told us. Sale price includes dish, low noise block converter and receiver package, while monthly price tag buys service currently offering 2 movie channels and one sports.

USCI official was unsure of installation costs in Radio Shack purchase. "We'll make money at it," Appel said. News of agreement hadn't reached Radio Shack district office in Indianapolis when we contacted them for details. "Is that right?" said one manager. "That's terrific." Estimated $600 price "has got to be the lowest out there," another noted, adding that Indianapolis has sizable population of larger dishes already.

From 2nd international conference on new telecommunications systems and services in Liege, Belgium in Nov., our European correspondent sent us these notes: (1) French domestic Telecom satellites will be used by Eutelsat for its European Satellite Multiservice System, which will offer data, text and image transmission, as well as voice. File transfer, funds transfer, computer-to-computer transfer, remote printing, electronic mail, teletext & videoconferencing are potential applications, and satellite will also play important role in implementing Integrated Services Digital Network (ISDN) in Europe, French telecommunications officials said. (2) European Space Agency is currently defining experimental project called APOLLO (Article Procurement with Online Local Ordering) to demonstrate document distribution through digital satellite links. ESA would use ECS satellite to test system. (3) Japan and Germany each plan to demonstrate digital audio capability on their forthcoming spacecraft -- Japan on BS-2 scheduled for launch next year and Germany on its pre-operational TV-Sat to be launched in 1985. Germany hopes move will stimulate German industry to manufacture digital audio tuners. (3) CBS and NHK are honing High Definition TV (HDTV) techniques. NHK allowed that HDTV transmission would be difficult with DBS system in 12 GHz band, suggested that it may be several years before technology is possible using higher frequencies.

Galaxy 1 HBO & Cinemax feeds will be scrambled, HBO announced in confirming plans to test M/A-Com Linkabit digital encryption scrambling method with eastern affiliates, rather than western, as originally planned. Cinemax had originally been left out of scrambling plans for 1984. With announcement that signals will be scrambled from initial Jan. transmission, HBO's plans for quasi-DBS use of Galaxy seem set on firm course. "Major technological advances" from joint research made for "dramatic reduction" of price, resulting in scrambling of Cinemax as well HBO, company said. Shipments to 500 unnamed eastern affiliates will begin next week. Satcom 3R transmission will continue unscrambled to 5,000 cable affiliates. At Time Inc. shareholders meeting, HBO Video Group Pres. Gerald Levin confirmed that HBO has garnered pay DBS rights in pay-TV negotiations under way, declined to name studios.

British equipment maker Communications Systems Corp. has designed new S-band down-converter for DBS use with Insat or Arabsat. S-IDC-70 unit features very low noise and conversion gain of 56 dB.

TURNER HOLDS DBS OVER HEADS OF RECALCITRANT CABLE OPERATORS; HBO PRESSES AHEAD ON JOINT DBS PLAN

Turner Bcstg. Chmn. Ted Turner warned cable operators at affiliates meeting during Western Cable Show in Cal. last week that he would replace those who don't want to pay full price for WTBS Atlanta, CNN & CNN Headline News with his own DBS delivery. Turner was vague on details, said no agreement had been reached with HBO, nevertheless made threat perfectly clear.

"Don't stick your heads in the sand," he warned. "It's like a storm coming... In those systems where we're not being carried, you can expect to see satellite dishes around." Reason for get-together was final pitch on new rate structure for 2 news services. Turner is asking 15, 18 & 22 per subscriber per month, depending on carriage of WTBS and whether or not latter is kept as basic service; Headline News would be increased to 20 and 22, according to similar formula.

Levels might be adjusted based on response from systems, but likelihood is that Turner won't budge much if at all. Company has lost $100 million since start of CNN 4 years ago, and Turner claimed banks have told him that "you've got to start making money next year. (TBS said CNN will lose $15-$16 million in 1983, that its cost will be about $85 million. CNN, which recently raised fees for new cable systems, said revenue from advertising will be about $40 million, about $20 million from systems, $10 million from other sources.)

New rates didn't sit well with several operators at breakfast. Most emotional remarks came from John Hickman of Calvideo in Alpine, Cal. Hickman told Turner: "I saw you as my savior. You were my Jesus Christ. But you're losing sight of who's buttering your bread. Another thing that really scares me is the talk about DBS. You're a captain jumping overboard."

Meanwhile, Time Inc. Video Group Vp Gerald Levin told National Cable Programming Conference that use of Galaxy satellite and 4-6-ft. receiving dishes makes DBS "much nearer at hand." Levin put startup in next 1-2 years, without HBO's waiting for medium- or high-powered satellites. SMATV likely will be first target, according to United Satellite Communications (USCI) Pres. Nathaniel Kwit.

At earlier news conference, HBO Pres. Frank Biondi took more cautious approach, said "we are continuing to look at" DBS, claimed all affiliates who have responded to DBS inquiries have been "enthusiastic about it." Systems would handle marketing & installation in unwired areas.

BRITISH STILL TRYING TO SALVAGE UNISAT DBS PROGRAM

Top British policymakers held crisis session in London last week in effort to get handle on what to do with Unisat, hybrid DBS-telecommunication satellite system that's looking increasingly like major commercial debacle. Meeting at Home Office was attended by chiefs of British Telecom, British Aerospace & Marconi, as British press mounted satellite death watch. But by end of week, Unisat program had not been ditched, although there was continuing skepticism that program could survive in its current form.

BBC governors, who on Dec. 15 were set to postpone indefinitely Unisat DBS program, instead, under govt. pressure, issued statement to effect that, while they had decided against immediate postponement, they had determined to explore all possibilities. Although BBC's pro-DBS faction has thus been given new opportunity to justify expense & technology of high-power DBS approach, announcement didn't look as if it would settle subject. Future of Unisat program, on which $75 million already has been committed, still looks very grim, especially in light of likely decisions by French & Germans to concentrate instead on medium-power distribution satellites.

Customers of United Satellite Communications (USCI) DBS service will have option of buying or renting company's equipment on credit following agreement by Associates National Bank, Concord, Cal., to extend credit to such customers. Bank will issue Execu-Charge/VISA credit card to "qualified customers" nationally, USCI said.

January 2, 1984

SATELLITE FORECAST FOR '84 INCLUDES HEAVY PUSH FOR KU-BAND

At FCC, Common Carrier Bureau Chief Jack Smith sees less busy year ahead in satellites. Last year saw approval of 2-degree spacing on increasingly crowded orbital arc and go-ahead to orbit 19 more satellites. Many of those will be making launch plans and will be proceeding with scheduled launches -- GTE Spacenet hopes to orbit its first on Ariane around May, another in Sept. GTE Satellite also hopes to orbit its first 2 GStars this summer and fall. But those whose applications came in under cutoff last Nov. may have to wait awhile. Smith said Commission would first have to hold proceeding to set guidelines on how to handle next round of applications.

Many newcomers wait in wings for approval, among them Federal Express and Martin Marietta. Ford Aerospace Satellite Services will be waiting anxiously for Commission ruling on applicants -- some in industry have said FCC's decision on FASSC's proposal could spell life or death for subsidiary. Commission also will be looking at its first ever application to launch Ka-band (30/20 GHz) satellite system. Hughes proposal, sources said, threatens future of NASA's Advanced Communications Technology Satellite program, which has been designed to experiment with high frequency and develop corresponding ground equipment. Administration's commitment to program may become apparent as budget process for space agency progresses.

Ron Lepkowski of FCC Satellite Radio Branch predicted heated activity in marketing of new Ku-band capacity, said new Ku-band satellites "by their presence will certainly give rise to new business services." Lepkowski also predicted increase in Commission approvals of specialized, smaller antenna services. He said approval of several applications by Equatorial Communications for low-speed, one-way data service at 6 GHz and by Slumbourget for primarily one-way service at 12/14 GHz would give rise to many new 2-way small antenna services.

In business, Satellite Business Systems will be under gun to perform well in fiscal 1984. Pres. Robert Hall has revised expectations for lagging firm, now predicts company will show profit in 1985. Suit with Rupert Murdoch over disputed contract for 5 transponders on SBS system can't help matters. Meanwhile, corporate owners IBM, Aetna Life & Casualty and Comsat continue to pour money into company -- estimated $1 billion in 1983. Another Comsat venture, Satellite TV Corp., will be finalizing its marketing & programming plans in preparation for fall launch of DBS in northeast U.S.

Meanwhile, industry watches United Satellite Communications, another DBS venture, for profitable signs -- anything that spells promise for fledgling industry. FCC's industry committee on DBS standards continues to thrash out technical specifications which it hopes Commission will recommend to, not require of, DBS providers.

Internationally, 1984 will see launch of Arabsat on Ariane in mid-summer or later. Palapa B-2 is set for Feb. launch on shuttle. U.S. preparations continue for World Administrative Radio Conference to assign orbital spectrum (Space WARC '85). FCC will develop position paper for conference and there will be several preparatory meetings: CCIR (International Radio Consultative Committee) meets in June-July and 8th Plenary Assembly of International Telegraph and Telephone Consultative Committee (CCITT) is tentatively scheduled for Oct. CCITT's plenary is also important as regular 4th year session; election of new director is expected.

CBS & COMSAT'S TV SATELLITE UNIT 'EXPLORE' DBS VENTURE

CBS and Comsat's Satellite TV Corp. have agreed to "explore" DBS together, companies said Dec. 21. But CBS cautioned that arrangement is preliminary, that nothing may develop. Announcement falls far short of what had been hoped by STC, which had previously promised to announce partnership arrangement before end of year. Furthermore, announcement adds almost nothing to what was previously known; Comsat & CBS have been talking DBS together for months, and talks have been widely reported, here & elsewhere. Noted one industry wag: "They've gotten into bed together but still haven't taken off their clothes."

Exploratory talks will include efforts to identify other venture partners and development work on DBS ground segment, program acquisition, project financing, technical operations and marketing & distribution support, companies said. No formal joint venture has been formed and CBS has put up no money (although STC continues to spend millions): "While there will be cooperation in the development efforts, there will be no joint investment costs during this exploratory period," said CBS Best. Group Vp-Communications George Schweitzer.

Joint venture approach to DBS isn't surprising in that both CBS and Comsat have said they wanted partners, felt some kind of partnership was necessary to reduce risks. "We've said this is a business we won't go into alone," Schweitzer said. Richard Bodman, pres. of Comsat's STV subsidiary, said: "This joint exploratory effort brings together skills that are critical to a successful DBS business." CBS Best. Group Senior Exec. Vp James Rosenfield commented that Comsat deal "will give CBS the opportunity to investigate more thoroughly how and whether entry into the DBS business would fit as part of CBS's long-range strategic plans."

"It's a natural marriage," said one communications executive, who pointed out that "Comsat knows a lot about satellites and that business. CBS knows a heck of a lot about reaching audiences with programming. They make up for each other's weak points." Deal also brings novel twist that may pique public interest -- high definition TV (HDTV). When STV filed for DBS grant in 1980 for subscription TV satellite service, CBS expressed some reservations at FCC that proposal would use up spectrum for just another pay TV service. In 1981, CBS filed for DBS grant proposing HDTV. After extensive technical work on development of HDTV systems, CBS last Sept. filed patents for 2-channel HDTV system that would be compatible with existing TV receivers.

"The affiliates board was briefed on our involvement [with Comsat] and they share our view that it will be a pay service that's not directly competitive to them in their local markets," said Schweitzer, who commented that joint venture with Comsat may never materialize: "Any speculation that there will be other steps is premature."

Competitor USSB said announcement was "anticlimactic." Vp Robert Fountain noted, however, that if the companies launch joint venture, "I don't see how both of them could keep their [DBS] licenses. Both are license holders, and it would seem that someone would have to give up their license." He said CBS-Comsat deal would be good for DBS: "This would accelerate and guarantee the success of DBS more than anything else. From a competitive viewpoint, I see them as formidable opponents, but this is positive move. I welcome it."

STC PICKS ANCOM & TOSHIBA AS DBS GROUND SEGMENT SUPPLIERS

Comsat subsidiary Satellite TV Corp. said it intends to enter contract discussions with Alcoa-NEC Communications (ANCOM) and Toshiba as suppliers of dishes and associated electronics for ground segment of STC's proposed DBS service, company said Dec. 22. Selection of suppliers follows announcement by Comsat and CBS that they're exploring joint venture in DBS. CBS cooperated with STC in reviewing specifications for home equipment and supports selections, STC said. "The selection of mutually agreed upon home equipment suppliers represents a first step in the CBS-Comsat joint exploration agreement," STC said.

But CBS denied that its participation in selection of suppliers means that Comsat-CBS joint venture has firmed up. "I don't see this as the other shoe dropping," said CBS Bcst. Group Vp-Communications George Schweitzer. "We are not yet in this business; we are exploring this business," he said. Only conclusion that should be drawn from CBS's participation in selection is "if we do go into business with STC and other partners, I would assume that we will follow the line of what hardware commitments STC makes," Schweitzer added. "Our engineering staffs are in agreement and certainly our system ideas are compatible," he said.

ANCOM, joint venture of Aluminum Corp. of America and NEC Corp., and Toshiba were chosen to provide dishes, associated outdoor electronics and indoor receiver because of "demonstrated superior system performance with 2-ft. dishes at low costs," STC said. However, neither STC nor CBS would say what price ranges ANCOM and Toshiba have proposed. "Our suppliers will become the leading producers of DBS home equipment and STC will be among the leaders of DBS services," said STC Exec. Vp Michael Alpert. "This arrangement is very significant between STC and our home equipment suppliers and it goes a long way to assure the success of the DBS business for all of us," said STC Pres. Richard Bodman.

Toshiba "cannot now estimate the value of the contract," said Toshiba America Chmn. Miki Kurashima. He expressed confidence that Toshiba can deliver quantities of indoor & outdoor electronics when STC launches DBS: "They are expecting to begin service in Oct. 1984 and I understand Toshiba and the other company will be able to be supplying the equipment by then." He said he couldn't give a per-unit cost of Toshiba's contribution to ground segment. Spokesman for ANCOM couldn't be reached.

January 9, 1984

GE Space Div., main subcontractor for Japanese DBS satellites with Toshiba, has "established a relationship" with Eurosatellite "for selected pursuit of DBS opportunities," company spokesman confirmed. GE, which was also prime contractor for DoD's DSCS III, based on Japanese BS platform, has even picked first target for marketing efforts in U.S.: U.S. Satellite Bcstg. (Hubbard). USSB executive confirmed that firm had received offer from GE, said DBS company was also involved in discussions with 4 other domestic satellite manufacturers. Our European correspondent reported that GE/Eurosatellite tender to USSB proposed use of TV-Sat/TDF platform, also called Spacebus 3000. Deal reportedly would involve GE's provision of advertising support for system. According to Roger Danon, Eurosatellite sales and mktg. dir.: "The possibility of GE's success in obtaining the USSB contract provides us an excellent opportunity to promote our products in the U.S.A. and throughout the world." BS-2A launch is scheduled for late Jan., is designed to make available or improve TV reception in Japan's mountainous and remote areas and in cities with tall buildings. Effective isotropic radiated power on main islands is expected to be more than 55 dBw; each of two 17 MHz channels will use 100-watt traveling wave tube.

GTE Satellite told FCC it opposes Satellite Business Systems plan to operate STS-4 at 101 degrees west on temporary basis for use by Satellite TV Corp. for DBS system. GTE said following assumptions on which SBS premised its request to Commission were unsupported: (1) That FCC will authorize STC to put its DBS bird at 101 degrees. (2) That STC will put its satellite in that slot in 1986 before any fixed satellite is ready for operation there. (3) That no other satellites will be ready for launch into that position until at least 1987 (duration of STC lease).

John Clark, RCA dir.-space applications & technology, will be vice chmn., Federal Advisory Committee on Technical Standards for DBS Service; Committee is chaired by ex-FCC Comr. Stephen Sharp

January 16, 1984

HUGHES PROPOSES DBS 'SHOPPING CENTER'

Last week saw furious activity in DBS arena as companies already awarded authorizations

firmed their plans while 4 new contenders joined fray. Eight applicants already given go-ahead to launch systems filed for specific slots that could afford viewing public over 40 new video channels; new applicants sought to offer 80 more. Though some of these matchups did much to confirm likelihood that some systems will in fact light up skies of late 1980's, financial future of others remains unclear.

New Kids on Block

Commission acknowledges that, even if all 8 DBS companies awarded permits to launch systems actually do so, there's still room on block for more. Among leaders in new round, considering resources and resolution, appears to be Hughes.

Hughes Communications Galaxy filed application to launch 32-transponder DBS system which it hopes to market as "video shopping center" in much same way as its Galaxy 1 cable satellite. Hughes proposed operation in 1989. Company spokeswoman, asked if system had any connection with plans of HBO and Turner Bcstg. to launch DBS system with Galaxy bird earlier than that, said: "There's no connection." HBO and Turner Bcstg. have confirmed plans to implement joint quasi-DBS service with Galaxy 1, tentatively set to be launched this fall. Service would be marketed to uncabled areas by cable operators; some insiders have said that if rights question were cleared up, HBO/TBS DBS service would be available "tomorrow."

Hughes' own 2-satellite system would be parked at 119 degrees west, slot favored by many but not majority of other applicants. From this centrally located position, satellites, which will be cross-polarized, will allow either full CONUS, 1/2-CONUS or 1/4-CONUS coverage. Coverage options will allow customers maximum flexibility, Hughes said, and higher transponder capacity of satellites will "significantly lower the per-channel cost to both the programmers and the DBS television viewers," application said.

Satellites will be Hughes HS 394 model (spin-stabilized with solar sails), high-power, 16-channel birds with 100-watt travelling wave tubes. Service to 0.6-m and 1.2-m antennas will be possible because of high power and ground antenna efficiency. "Innovative marketing and sales plan" will ensure channels are available to "broad spectrum of programmers and private citizens," and special effort will be made to include minority interests, filing said: "Hughes will attempt to obtain both subscription and advertising-supported television." No sales contracts have been executed; high-definition TV is possibility.

Wait, There's More...

Other new companies to request authority are National Exchange, Advanced Communications and Space Communications Services.

National Exchange already has pending application for 2 Ku- and one C-band satellite to be located at 101 degrees west. That's same place company would like to park its 2-satellite DBS system, making for 5-satellite system offering "myriad of integrated services through a variety of tailored communications networks," according to filing. Each satellite in "Spotnet" DBS system would have 8 transponders, one transmitting to east 1/2 CONUS area, other to west. Each transponder would transmit using 50-watt TWTAs. Advantage of co-locating systems is that individual customers could receive services through "single ground facility with substantial amounts of common equipment." It wasn't clear from filing whether this meant single antenna could be used in all 3 frequencies.

National Exchange is headed by Clay Whitehead, ex-Hughes Galaxy pres. and Office of Telecommunications Policy head, has received some financial encouragement from Salomon Bros. which wrote letter saying idea "could be appealing" to others in investment community. Company plans to market NEX-Spotnet system as whole, said C-band would be most attractive and economical for high-density point-to-point traffic, Ku- for low-density point-to-point and DBS for point-to-multipoint. Company would like to offer: (1) Analog transmission of video entertainment and information. (2) Analog transmission of video in non-entertainment applications to businesses and a few residential users. (3) Digital transmission of information

directly to homes and offices. Application said services would be best offered on non-common-carrier basis.

Advanced Communications is headed by Daniel Garner, formerly of Tower Communications in Ark. With exception of Vp Donald Dement, former NASA official now consultant in Washington area, all board members are from Ark. Company wants 6-channel system via 2 satellites having 3 transponders each. Both satellites would be located at 101 degrees west, splitting coverage into east and west CONUS. Company plans to program 3 channels itself of entertainment, informational and educational material and commercial TV, would consider selling other 3 channels.

Space Communications Services wants to offer 6 channels of video from each of 2 satellites having 1/2 CONUS coverage from 101 & 166 degrees west. At least 3 channels would be programmed by company itself, one for "common carrier data," one for subcarrier information (including videotext, one-way signaling and pay-TV) and non-common-carrier commercial TV & radio. Others would be available for common-carrier, entertainment and special interest programming. Firm is joint venture between 3 principals -- Washington communications lawyer Thomas McCabe, engineering consultant Robert Terres and another engineer Michael Clarson -- and Satellite Radio Services, Pa. corporation owned by RBC Communications.

Among those who reaffirmed commitments to DBS with updated filings, National Christian Network (NCN) asked for 2-satellite system at 101 & 148 degrees west (change from original 4 satellites), each with 6-channel service. Though transponders were said to have 230-watt power, customer antenna size -- 1-1.5-m -- was on high side for DBS system. Satellites chosen for system will be scaled-up versions of advanced RCA Satcom, will be launched by shuttle, filing said. Satellite Syndicated Systems also likes RCA bird with 230-watt transponders but predicts home dish size of 0.6-1-m. SSS would put 2-satellite, 6-channel system at 101 & 148 degrees east.

Finally, N.Y.-based Satellite Development Trust wants 16-channel system -- 2 satellites with 8 transponders each -- located at 61.5 and 148 degrees west, respectively providing 1/2-CONUS coverage (east and west). All channels will be devoted to entertainment; spokesman said SDT would program movie and music channels itself and lease remaining channels to other programmers.

STC Joins With CBS; HDTV in Offing

Among those already holding permits, Satellite TV Corp. (STC) and CBS may have designated place to be for DBS operators in late 1980's by filing with FCC for jointly located system that could offer subscribers up to 12 channels of "enhanced" TV service. With slightly fewer channels, customers of cooperative system could even be first in country to receive high-definition TV.

Deal has yet to be finalized, but CBS official told us: "There's a general predisposition on both sides of the table to work things out," and as soon as possible. STC/CBS venture would be at 101 & 148 degrees west. Eventually, each location would have 2 satellites, one from each firm, each with 6-channel service directed toward 1/2 CONUS area (corresponding to Eastern/Central and Mountain/Pacific time zones). STC plans to inaugurate its system with 2 co-located satellites in eastern slot having 3 channels each.

Joint statement of companies said that, so far, agreement to join forces in launching DBS system existed only in memorandum of understanding. One acknowledged impetus for deal is that while "a well-financed, multiple-channel DBS service -- particularly one with HDTV capacity -- offers the prospect of providing a nationwide pay-television alternative to cable," costs and risks involved in nationwide, high-power DBS system "would be an enormous burden for any one entity." STC brings expertise in satellite technology, financial resources and design for DBS "security system" to venture; CBS brings entertainment and information expertise and HDTV engineering.

CBS will have choice of offering "enhanced TV" using multiplexed analog component format favored overseas or time multiplexed component system developed by CBS. Latter would emit 525-line signal; either could be delivered using only one satellite transponder or channel. High-definition TV transmissions also are possibility, would use 2 transponders per HDTV channel having 1,050-line resolution. CBS won't have to decide on configuration of channels before launching satellite, is exploring options in talks with STC, CBS official said. He added that one thing that made STC attractive partner is that "phase in" of HDTV could be accomplished "most realistically in system that provides an early entry opportunity." STC's interim 5-channel service will begin via medium-power satellite this fall.

As discussions continue, neither is asking FCC to transfer construction permits; both said that because each holds own DBS permit, they were entitled to implement systems as proposed in modified filing. CBS and STC argued that agreement, though not final, was reason enough for systems to be co-located and thus able to be picked up by single ground antenna. Whether system which issues from talks is joint system or 2 separate systems operating cooperatively depends largely on "how the Commission intends to treat the construction permit" held by both companies, DBS official said. He added that, whatever arrangements are reached with STC, CBS makes it practice to have "hands-on involvement in the management" of any new ventures.

Advantages of co-location with viable DBS operation seemed apparent to other operators -- 2 slots 101 & 148 proved overwhelmingly most popular spots to be with 71 and 63 channels respectively requested by awardees and applicants. The 2 firms are considered to be among most serious candidates to launch DBS, as STC has already committed more than $114 million to build satellites and booked shuttle flights and CBS recently crafted deal with TRW for its birds. CBS official said that its deal with TRW is "predicated on an exploratory period with Comsat [STC]," but that CBS and satellite builder began "cooperative effort" on transmission specifications back in Jan. 1982.

Awardees Wrap-Up

Company-by-company breakdown of requests to modify original applications: (1) U.S. Satellite Bcstg. wants to leave options open for coverage areas, reiterated request for 2 satellites, each with coverage of 2 zones, each served by beam with 3 channels. Beams could combine to cover 1/2 CONUS or 2 adjacent 1/4 CONUS areas. Slots requested were 101 & 148 degrees west. (2) Direct Bcst. Satellite Corp. (DBSC) revised original plan of 3 coverage areas down to 2 and asked Commission to press for modification of Regional Administrative Radio Conference agreement to allow single satellite coverage of whole U.S. Each of 2 satellites, at 101 & 148 degrees west, would have 6 channels plus 3 spot beams with 4 channels each. Each area would receive total of no more than 10 channels -- spot beams would be reused to transmit to several geographical areas.

(3) Western Union originally applied for 80, 100, 120 & 140 degrees west, now wants 110, 119, 148 & 157. WU maintained interest in 4 coverage areas with those requests, wants 2 in-orbit spares at 110 & 148 degrees. Phase one of service would involve 2 satellites at 110 & 148 each with 4-channel service; phase 2 would add service at 119 & 157 degrees, each also with 4-channel service. Other shift was to propose circular polarization rather than linear. Company still is seeking programming partner or partners "who will bring proven experience in that area to complement our knowledge and experience in satellite communications and our extensive nationwide field service and consumer billing operations," filing said. (4) RCA Americom wants 6 satellites, 4 in orbit, one in-orbit spare, one on ground. Four satellites would cover 4 service areas corresponding to time zones, each receiving 6 channels. Slots requested were 101, 119, 148, 157.

(5) Graphic Scanning maintained request for 2-satellite system with 2 channels on each bird, but revised orbital preferences to 119 & 148 degrees west. (Details were also submitted for 153 degrees west as alternative to 148.) GS is only one of awardees to propose starting service with its western coverage area. Reason given for change in orbital locations for "premium programming" service was that lower transmitting power and higher power flux density would be possible. (6) Video Satellite Systems, which said it filed revisions in Nov. --

though Commission has been unable to locate document -- proposes radical changes in design. First of 2-satellites would be orbited at 119 degrees west, would divide 6-channel service between east and west coverage areas (3 to east, 3 to west). At launch of 2nd satellite to 148 degrees, each satellite would take over 6-channel transmission to single coverage area.

Selection Headache

Choices by applicants make for certain FCC selection headache; there are only 32 channels available at each of 8 orbital locations designated for U.S. use at Regional Administrative Radio Conference in Geneva last June. Three slots are overbooked: (1) 148 degrees west with requests for 63 channels -- Satellite TV (STC) and CBS jointly for 12, Direct Best. Satellite 10, Graphic Scanning 2, NCN 6, RCA 6, Satellite Development Trust 8, SSS 6, U.S. Satellite Bcstg. 3, Video Satellite Services (VSS) 6 and Western Union 4. (2) 119 degrees west with requests for 34 channels -- Hughes 16, Graphic Scanning 2, RCA 6, VSS 6 and WU 4. (3) 101 degrees west with requests for 71 channels -- 12 jointly by STC & CBS, Advanced Communications 6, DBSC 10, NCN 6, NEX 16, RCA 6, SCS 6, SSS 6, USSB 3. Of course, those companies already granted authority to proceed with systems -- STC, CBS, RCA, WU, USSB, DBSC, VSS and Graphic Scanning -- have first dibs on slots & channel frequencies. Whether firms actually launch systems also depends on ability of firms to finance systems and not all of those awarded grants in first round can point to full coffer for system costs.

BLUME AND FRIEDLAND LEAVE USCI

Richard Blume & Cliff Friedland, founders of United Satellite Communications (USCI), left company Jan. 15, Blume confirmed. The 2, named dirs. but never operational officers, pioneered early-entry medium-power DBS, move that began with purchase of transponder space on Anik-C in 1983. In process, they jarred Comsat, HBO and other giants into medium-power DBS and put small satellite dishes on rooftops and in backyards long before conventional thinking had considered it possible.

"We're entrepreneurs," Blume explained. "Now this company is at a stage where it's operational, there are over 200 people working for it and it's time for us to move on and develop other ideas." Nonetheless, rumors have persisted of conflict between founders & management, especially with USCI Pres. Nathaniel Kwit, who was brought in from MGM/UA after Prudential Insurance & General Instrument pumped some $100 million into company. They'll retain ownership, which combined totals less than 10%, Blume said.

Blume said USCI was "exceeding expectations," notes that newspaper ads for service in newly added Chicago area netted 30,000 phone calls in first week. Though neither he nor USCI officials would confirm numbers, our sources indicate service has roughly 600 subscribers in 33-county area around Indianapolis, which works out to about 100 customers weekly who've signed since Nov. launch. Service costs $300 for installation of leased dish, with $40 monthly charge, or $750 for purchase, with $25 monthly charge. New expansion to 17-county area around Chicago excludes Cook County, which has zoning ordinance against dishes on rooftops. Peoria & Champaign-Urbana also are included. Print campaign began in early Jan. and some TV ads will follow, USCI official told us.

The 2 will move onto new project about which Blume was vague. "I've always learned not to talk until it's real -- lots of people like to follow our ideas," he said. "In a few instances where we talked about our ideas, we found other corporations imitated us." Project will involve international voice & video satellite communications and 2-way low-cost terminals, he said.

USCI, acting on headstart Blume & Friedland provided, plans "very fast rollout," while it still has market to itself. (Satellite TV Corp. is scheduled to launch in fall.) Service will be in every major market in its footprint by year's end, adding 2-3 major cities monthly beginning in Jan., official said. USCI has acquired DBS package from Paramount including Flashdance, which will premier on one of 2 movie channels in Feb., official added.

Market for backyard satellite dishes should jump from 225,000 units last year to 550,000 in 1984, bringing total to 875,000, KLM Electronics Pres. Peter Dalton told news conference at Consumer Electronics Show in Las Vegas last week. CES had its usual parking-lot display of earth stations which drew mere glances from passers-by, problem that TVRO industry has yet to overcome, Dalton acknowledged. Sales potential of $1.4 billion this year "unfortunately has been ignored by [these] dealers." Dalton said average unit price was declining from $3,000 to $2,500, maintains industry now has "a solid design, manufacturing and distribution base. We could not say this with such confidence a year ago" when he predicted sales of 180,000 dishes. KLM claims 1/3 share of satellite receiver market, has branched into educational field with systems installed at schools in Ill., Minn., Pa. Its sales pitch focuses on reception of 16-17 educational channels transmitted via satellite and off-air VCR recording, eventually will be expanded to include instructional data bases for school computers. Dalton, also pres. of Society for Private & Commercial Earth Stations (SPACE), said HBO and Showtime/Movie Channel were more agreeable to accepting payments from TVRO owners; pay services thus far have refused so as not to legitimize unauthorized reception. He thinks DBS will go much slower than predicted, nevertheless expects it to provide "tremendous octane" to business. KLM meanwhile has licensed Pioneer Electronics of Japan to manufacture receiver line, transferring considerable volume of production to outside U.S.

Encryption Standards Subcommittee of FCC Industry Advisory Committee on Technical Standards for DBS Service meets Jan. 18, 10 a.m., at RCA Sarnoff Research Center, Princeton. Transmission Standards Subcommittee and Receiver Standards Subcommittee meet Jan. 19 at NBC hq, 9:30 a.m. & 2 p.m., respectively.

January 23, 1984

HUGHES DEFENDS AGAINST STC CHARGES; STC PURSUES FCC HEARING

Mudslinging continues between Hughes and Comsat's Satellite TV Corp. (STC) over issue of whether Hughes Communications Galaxy is guilty of premature satellite building in absence of FCC construction permit. HCG responded to STC charges that Hughes misrepresented facts to FCC about its Ku-band satellite application with barb that STC claims were "erroneous assumptions concocted out of misguided speculation and inference." Hughes asked FCC to deny STC petition to deny Hughes' Ku-band satellite application, explained that head start on satellite construction was consistent with "long established practice" resulting from anticipation of customer demand without customer orders.

Hughes said STC officials misinterpreted statements by Hughes officials that first HS-393 satellites were committed to Hughes Galaxy. STC allegation that Hughes Galaxy and parent company had implied contract for first HS-393s was false, and satellites are for sale to "bona fide purchasers," as evidenced by sale of first 2 HS-393s to Advanced Business Communications Inc. (ABCI), Hughes said. Hughes officials didn't consider STC as serious customer to buy HS-393 for use as medium-power DBS because of STC contract with RCA. Launch reservations on shuttle in 1985 were placed because shuttle prices go up in '86 and space was becoming "increasingly scarce." Hughes recently gave up Sept. 1985 shuttle reservation and plans to launch first ABCI satellite on shuttle in March '86.

"STC's unfounded allegations amount to a transparent attempt to gain competitive advantages through misuse of the Commission's processes, in lieu of competing effectively in the marketplace," Hughes said. STC replied that, since Hughes didn't deny fundamental charges by STC -- particularly that satellites were being constructed ahead of schedule -- Commission must hold hearing. Specifically, Commission should explore nature and extent of commitment between Hughes Aircraft and its subsidiaries in satellite procurement.

Far from proving its point that there was no specific commitment to sell birds to HCG, deal with ABCI for Ku-band satellites confirms worst suspicions, STC said. ABCI isn't what Hughes called "bona fide purchaser," according to STC, "rather [it's] a shell corporation which Hughes sought to use as a vehicle for escaping its current predicament." STC elaborated on

charge, saying that, since Hughes Communications itself ended up with most of ABCI business in satellite deal and has option to purchase company, "the purchaser [of satellites] in this arrangement is not ABCI, but Hughes Galaxy--and what Hughes is buying is ABCI's construction permit, along with the orbital slots ABCI was recently assigned."

Controversy promises to be hot topic at Commission when agency finally looks at satellite applications filed in last round. For now, Hughes filing for Ku-band satellite system, which provoked STC charges, has yet to be placed on public notice, so no other satellite firms have expressed opinion on matter. STC vows not to let issue die.

Turner Bestg. will post $10 million profit in 1983, TBS Pres. Robert Wussler told group at TV Academy lunch in N.Y. last week. "Our 1984 goal is to double that," he said. Cable News Network should be in black by summer, 1985, he added. No decisions have been made on DBS services with HBO or anyone else, Wussler said, as company takes "wide, hard look" at options, but one should be made by "mid-spring." "We've had a lot of conversations with Time Inc. at this point, but discussions with others have been ongoing since the fall," he said. "We don't limit our conversations to Time Inc." DBS rights wouldn't be needed for service from Galaxy 1, he said. In meantime, "complaints & disagreements" have followed in wake of 15 per subscriber fee for CNN, but "we don't see a problem down the line."

Correction: Advanced Communications' proposed DBS system also included satellite at 148 degrees west (total of 6 channels each at 101 and 148). That plus totalling error changes total count at popular slots 148 and 101 to 72 and 74 channels respectively.

January 30, 1984

USCI EXPANDS SERVICE TO WASHINGTON, D.C. AREA

United Satellite Communications (USCI) is moving into Washington, D.C. metropolitan area in course of its expansion across DBS service's 24-state coverage area. Starting Feb. 1, new market area will include 31-county region surrounding Washington which takes in Baltimore, parts of W.Va., Pa. & Va. Cincinnati also will be served by that date, though all new areas will probably have to wait slightly longer while retail agent Radio Shack gears up for sales push. According to USCI official, stores may be ready to offer service in Chicago by Feb. 1 -- 3 weeks after marketing effort began there.

Aside from hints that consumer interest in service is running "ahead of expectations," company isn't issuing precise figures on how many customers are receiving service in markets already opened (Ind., Chicago, downstate Ill.). Reason for keeping quiet, USCI Pres. Nathaniel Kwit told us: "Why in hell should we tell you, and especially the folks down at L'Enfant Plaza [Comsat] how we're doing. It's a very competitive field." Kwit later told Washington Post company had "thousand or more" subscribers and that goal of 100,000 to 200,000 by year's end may be too modest. Industry has expressed some skepticism about projections, HBO Pres. Frank Biondi commented in speech to Washington Metropolitan Cable Club luncheon last week: "USCI probably has 200 subscribers in Indiana, and, of those, I'd bet about 30 are on somebody's payroll."

Washington area subscribers will need 1.0-m dish, about medium-sized for USCI coverage points. Five channels are offered: 2 movie channels, ESPN (sports) and 2 variety channels -- which will undergo some shifts as company experiments with options. Company spokeswoman Edina Gillmore said USCI "expects to add" MTV (Music TV) and Nickelodeon in coming weeks. No formal agreements have been signed, she added.

Even with more varied programming, service price -- $300 initial fee plus $40 a month if renting dish, $700 plus $30 if buying equipment -- still strikes some as high. Gillmore said that, since principal market was uncabled, cost can't be compared to cable, must be weighed on basis of customer's interest in premium programming. Washington is viewed as sophisticated market with larger appetite for such programming than most: "We think we'll do well there," Kwit

said. He also said area is viewed as "telecommunications capital" and "I have to admit that the fact that it's in STC's backyard makes it especially interesting."

Company will expand at "frenetic" pace from now on, Kwit said, expects to have opened most of 24-state area by summer. Plans won't change with entry of STC this fall, he said.

Apparently spurred by USCI's announcement, STC issued statement and price figures for its planned service. "STC is confident that we have developed the most sound approach to offering consumers a higher quality television service at the lowest possible price... We are set for long term success," company said. STC's home equipment should be in $350-$400 range at first and customers will pay "in a range of $15 to $20 for the program service." Washington, Philadelphia & Baltimore are among first cities targeted.

M/A-Com has unveiled VideoCipher II scrambling and receive system for satellite cable and DBS distribution. Demonstration, at Tex. Cable Show, used 6-ft. dish with offset feed and Galaxy 1 satellite. Company said successful test would open "opportunities for DBS services on existing C-band satellites," and enhance signal reception by eliminating need for audio subcarriers and for using digital synchronization. System "will also provide similar operational benefits in Ku-band DBS systems," company claimed.

Following applications for minor modifications to DBS construction permits were accepted for filing by FCC: Satellite TV Corp., CBS, Direct Best. Satellite, Graphic Scanning, RCA Americom, U.S. Satellite Bestg., Video Satellite Systems, Western Union Telegraph.

February 6, 1984

UNISAT SUSPENDS SATELLITE CONSTRUCTION AS BBC/IBA TALKS CONTINUE

United Satellites Ltd. has ordered prime contractor and subcontractors to suspend construction of Unisat DBS satellites, pending resolution of talks by potential users. Daniel Gruneberg, managing dir. of USL, told us that suspension was "temporary, we hope, pending a resolution of various government and broadcast policies that have been hotly contested" in U.K.

BBC & Independent Best. Authority (IBA) reportedly have been involved in intense negotiations regarding commercial viability of new DBS. Project was originally scheduled to be completed in 1986-87. Whole issue has become topic of govt. and broadcasting policy debate in view of fact that new C-MAC transmission standard would be employed, calling for marketing of new TV sets in addition to distribution of DBS reception equipment.

Gruneberg wouldn't comment on progress of talks, except to say they were for parties involved to find "basis to continue" project: "You don't have to hold discussions to discontinue something, you just pull the plug." Neither would he comment on status of contracts under prime contractor British Aerospace, which is also 3rd partner in project along with British Telecom International and GE of England.

BAe officials refused comment. Just last week, Ford Aerospace said it was awarded $33 million contract by BAe subcontractor Marconi to develop and supply parts for Unisat satellite. Ford was to supply transponder for each of 3 satellites (2 planned to be orbited, one ground spare) plus one development satellite under contract.

HBO is still more than year away from deciding whether it will enter DBS field, Pres. Frank Biondi told Washington Metropolitan Cable Club recently. "I think we will have an answer between the summer of 1984 and the summer of 1985 if that's a go or no-go," he said. Factors that would push HBO toward DBS are: (1) Emergence of encryption system that's industry standard. (2) Reliable, affordable ground segment. (3) Effectiveness of cable operators at entering DBS sales & service side of business. Biondi said many companies are closely watching USCI's DBS roll-out in Ind.: "A lot of people are going to school on USCI. I would say that out of 200 or so subscribers that they have out there, at least 30 are on

somebody's payroll [working for other communications companies]." He also said he doubted that Showtime/Movie Channel's film deal with Paramount will drastically alter pay TV scene: "If you think that consumers are going to alter their viewing and usage habits because of 4 movies, you're wrong."

Rupert Murdoch's DBS company, News Satellite TV Ltd. (Skyband), has settled out of court its dispute with Satellite Business Systems over contract for 5 transponders on SBS 3. Murdoch originally signed $75-million 6-year lease for transponders to launch early-entry DBS, then reconsidered. Settlement wins SBS $12.7 million. Company also recovers transponders and 5 uplinks in Secaucus, N.J., is in process of remarketing them, according to SBS spokesman: "The settlement compensates SBS fairly and there is a strong marketplace demand for these facilities." Company said it's talking to "several prospective customers," hasn't concluded any agreements.

February 13, 1984

PROBLEMS SURFACE IN RECEIVING GALAXY SIGNAL ON SMALLER DBS DISHES

Recent reports have surfaced from study of Hughes Communications' Galaxy 1 satellite that C-band bird, touted as DBS possibility by HBO and Turner Bcstg., in reality has serious problems with smaller TVROs. Study found that audio portion of Galaxy signal didn't come through on some 6-ft. dishes in New England and other areas, while 4-ft. units could receive only in certain "hot spots" of country.

HBO had been talking fall startup, offered DBS details to cable operators at Western Cable Show. Now, company is suddenly more than year away from deciding whether it will enter DBS, delay confirmed by Pres. Frank Biondi: "I think we will have an answer between the summer of 1984 and the summer of 1985 if that's a go or no-go."

WTBS confirmed problems with bird. "Yes, we're aware of these problems and we've been looking into them," Turner Bcstg. Pres. Robert Wussler told us. Statement seems to weaken warning TBS Chmn. Ted Turner issued at Western Cable Show to operators reluctant to pay TBS's higher rates: "I have a 4-ft. dish that costs $700 and it gets a damn fine picture from Galaxy." One satellite dish manufacturer notes that difficulties would be "limited to certain fringe parts of the country," and not necessarily harm national rollout.

HBO & TBS are "creating a lot of smoke with this talk about DBS on Galaxy," another source familiar with medium-power DBS business claimed. He said that HBO had been strongly interested in programming United Satellite Communications, but had been unable to get DBS rights from studios and had to back off. Recent talk about Galaxy has more to do with HBO's need to get rights for future K-band system than actual Galaxy 1 service, he said.

Others stand staunchly behind Galaxy. Group W Satellite Communications will duplicate its Westar 5 feed of Nashville Network on Galaxy 1 starting Feb. 14. Westinghouse Bcstg. & Cable owns one and leases 9 Westar 5 transponders, was committed to establishing it as major cable bird.

But with 5 GWSC transponders left empty by demise of Satellite News Channel, another from Spotlight's shutdown, 2 more to be vacated by Disney Channel and WOR-TV N.Y., GWSC has decided to hop on Galaxy bandwagon. Arts & Entertainment, one of few remaining cable

services subleasing GWSC transponder, will be considering move "sometime in 2nd quarter," according to A&E Pres. Nickolas Davatzes.

NN uses last of 4 GWSC-owned Galaxy transponders originally slated for company's aborted Sports Network. Like DC and WOR-TV, NN plans dual feed from Westar 5 & Galaxy 1 for near-term at least, although Disney plans to end duplication this year. "We're going to do whatever makes most sense for our affiliates," GWSC Pres. Harlan Rosenzweig told us. NN has 12.5 million homes needed for Nielsen meter, and Rosenzweig claims revenues now cover 50% of costs.

"C-band direct" capacity of Galaxy was important factor in decision, Rosenzweig said, adding that NN had contacted HBO about involvement in DBS service. "Frankly, there's no reason why everyone on Galaxy wouldn't be part of the service," he said. "We're definitely interested in expanding our services to non-cabled areas," although costs haven't been worked out. Rosenzweig denies reports that Galaxy 1 had problems transmitting to some 6- & 4-ft. dishes: "From what I've seen, it seems to be a very good signal on a 1.2 meter dish." NN has no plans to scramble at present.

Regional sports networks -- in Mich., Minn., Wis., New England and SportsTime from Anheuser-Busch in St. Louis -- are likeliest cable candidates for some of GWSC's excess Westar capacity. Agreements should be reached in next few weeks, said Rosenzweig, who claims he's also been in touch with newcomers such as Nostalgia Channel and Montage. As for remainder, "hopefully, we'd like to stay in the cable business," Scott Smith, in charge of GWSC transponder sales, told us. "It's a little bit of a seesaw here now." Taking up slack is Group W's own production & syndication business, which has expanded from 2 to 3 transponders. Sales to Wold, Bonneville, Netcom take up other SNC channels.

February 20, 1984

High definition TV and enhancement of current picture were in spotlight at Society of Motion Picture & TV Engineers (SMPTE) conference Feb. 10-11 in Montreal. Although most discussions centered on inauguration of "enhanced" 525-line picture on DBS by means of component signal (separation of luminance & chrominance), Philips gave surprise demonstration of 60-frame-per-sec. 525-line non-interlaced TV and showed frame storage chips which it said were in pilot production, promised to put them in TV sets soon. Philips also differed from traditional approach by suggesting that cable, rather than DBS, is best vehicle to inaugurate HDTV, proposing enhanced 525-line picture on main channel, additional lines and edges of widescreen picture on 2nd channel. Philips saw 657 lines with digital enhancement as optimum number, as opposed to 1,050 or 1,125 lines proposed by NHK in Japan and most frequently mentioned for HDTV here. Recommendations of industrywide Advanced TV Systems Committee (ATSC) are scheduled to be presented in about a year. Chmn. Renville McMann, CBS Technology, said goal is "picture that makes the viewer gasp at the quality when he first turns it on," adding committee is looking into such aspects as hi-fi TV, HDTV, enhanced 525-line, 3-D, etc. Current picture will be enhanced for first time in DBS, he forecast, by using MAC or some other form of component video signal.

Low-cost home DBS receiver may be next major product from U.K. innovator Sinclair Research. Company says it plans to build complete system designed for connection to standard TV to retail at about $145, or less than half prices being quoted today. Sinclair says system could be heart of complete high-definition DBS receiver-TV combination which could sell at about $700. Company and its predecessors have long history of breakthrough products, including first shirt pocket calculator, first 2" b&w pocket portable TV, first personal computer retailing at less than $100.

February 27, 1984

USCI REVEALS HIGH COST OF DBS

United Satellite Communications Inc., early DBS entrant now offering service in 6 states,

will require vast infusions of cash over next 3 years if it's to survive, according to prospectus for private $40 million offering being placed by Salomon Bros. & Morgan Stanley.

USCI has begun promoting $995 hardware sales plan, giving subscribers dish plus year of programming, compared with old scheme of $750 for hardware and $25 monthly charge. Outright purchase of 2.5-4-ft. dishes is only way company can survive, USCI Pres. Nathaniel Kwit says in prospectus. Currently, 70% of subscribers are lessees who paid $300 for installation, are charged $39.95 monthly. Company projects first profit in 1987, when it claims it will make $106 million on revenues of $807 million; net in 1988 will grow to $137 million on sales of $1 billion.

"Why not $8 billion?" Smith Barney entertainment analyst Edward Atarino asked us. "Projections are projections -- you should have seen some of the projections for cable services that have already disappeared." But General Instrument Strategy & Planning Vp Frank Sterling thought numbers "conservative," notes his company had predicted $1.5 billion market for DBS in 5-year plan.

Meanwhile, according to figures quoted in Wall St. Journal, USCI expects to lose nearly $120 million over next 3 years, requires additional financing of more than $200 million through 1986 in order to proceed as planned. Company is looking for $150 million from bank loans, $55 million from equity financing.

Money can be found for "almost anything," analysts say, but private nature of offering reveals just how risky USCI business is considered. "The odds are enormously against any kind of quick response on something like this," one stock broker told us, adding that though IBM and Xerox "probably started with private capital, for every Xerox or IBM, hundreds go by the boards."

Search for private capital indicates USCI's major backers, Prudential and 14% partner General Instrument, have given up on search for new partner. Prudential's coverage clearly isn't enough. Having pumped in $45 million, it will add cash only if Wall St. provides infusion. If $40 million is raised from outside, Prudential will add $5 million to pot, GI another $1.6 million, through stock purchases.

"The game plan is coming apart," Atarino said. "It's going to be a real struggle for DBS." In essence, another financial source said, USCI now is competing in rural & uncabled markets with far less expensive and more flexible VCR. And network TV "hasn't been doing too badly lately, either," another source said. But Radio Shack Mdsg. Vp Robert Miller said Radio Shack has no problems with USCI's plans. Terming business one of "tremendous risk and tremendous opportunity," he said it was "too soon to tell" how dishes were selling at Radio Shack stores in USCI-offered areas. One drawback, he told us, was contractual difficulties in malls and other shopping areas that make it difficult for RS stores to receive USCI signal.

Private investors, who have to show serious intent and ability to invest at least $100,000 before even getting copy of offering document, aren't given hard numbers on current subscriber base, apparently USCI secret. USCI claims its subscribers are "in the thousands" and offering document projects 100,000 customers by Nov. In meantime, USCI has added 4 new cities with March 1 launch date: Philadelphia, Dayton, Cincinnati & Salisbury, Md. Phone receptionists at 800-225-USCI told us that north shore Chicago suburbs have 10-14-day waiting list for installation.

Delegates from Chinese Ministry of Communications and of "Chisat" hq in Beijing have visited European satellite and especially DBS manufacturers in last month. According to our European correspondent, China seems to be making development of DBS system in China during 2nd half of 1980's high priority. High on Chinese's list were Aerospatiale and Matra, German Eurosatellite and MBB, and British Aerospace. RFP for first Chisat spacecraft, to be launched by late 1987, will be released this year and Chinese officials said they are confident of picking prime contractor by year end. Eurosatellite already has joined with MBB and Aerospatiale in proposing Spacebus 100 (Arabsat platform) with one or 2 powerful DBS transponders. Satcom

International, with BAe and Matra, is pushing Eurostar platform with 1-2 high-power transponders.

Announcement by Sinclair Research to look at production of low-cost home DBS receiver caused "quite a stir" in London, according to source involved in U.S. DBS venture. BBC engineering source said that several potential DBS users contacted Sinclair, which said announcement was somewhat premature, that company was planning only indoor unit and hadn't thoroughly investigated costs. Go ahead on production is still to come, company said.

Oak Industries last week congratulated itself after winning order for 5,000 "personal decoders" for use in Cancom's Canadian C-band DBS service. Oak officials were energetic in pointing out that their Orion satellite encryption system is in production ahead of rival systems. Orion personal decoder costs around $300 in bulk.

March 5, 1984

APPEALS COURT HEARS ARGUMENTS ON DBS FCC AND OTHERS WEIGH COURT REACTIONS

FCC was somewhat shaken by reactions of U.S. Court of Appeals, D.C., Judge Abner Mikva to its defense recently of its DBS decisions. Oral arguments in related cases touching on DBS regulation were heard Feb. 23. During arguments, Mikva more than once expressed incredulity that neither authorized DBS companies nor satellite programmer United Satellite Communications (USCI) are being subjected to laws governing broadcasters.

"You have something that looks like broadcasting, smells like broadcasting and tastes like broadcasting and has all the benefits of broadcasting, but we're not going to treat it as broadcasting because Congress didn't know about it [when it passed Communications Act]?" Mikva asked. Comment came in reference to first of 2 consolidated cases brought by NAB: Appeal of FCC's authorization of DBS service and grant of DBS application by Satellite TV Corp. STC application was criticized for potential cross-subsidization that could occur from parent Comsat's regulated businesses.

FCC lawyer Daniel Armstrong had argued that FCC had authorized DBS systems with choice of whether they wanted to be broadcasters or common carriers in order to get system up and running. FCC lawyers said Congress hadn't contemplated technology when it authored Communications Act, and DBS didn't seem to fit into any neat category.

Commission did, however, consider its mandate to advance new technologies, and authorized DBS systems with 2 things in mind: (1) It takes more than 3 years to build satellite. (2) Regional Administrative Radio Conference for western hemisphere was coming up in Geneva last June, and U.S. had to express concrete needs for future DBS systems. But NAB challenged Commission's right to create "standardless environment" for DBS, regardless of FCC's worries about timing and its desire to hasten new technology. Of all arguments NAB presented, court seemed most taken with issue of localism. NAB lawyer Eugene Mullin told us: "NAB is no fan of regulation, but the principal standard controlling all broadcasters is that they are locally responsible... Without that constraint," DBS is left adrift.

Questioned on practicality of localizing what is essentially national service, Mullin told court that Commission had begged that question: "The Commission left open the question of who regulates... The answer is no one." Commission's view of new services is that they should be left to develop in marketplace until abuses develop; FCC could then deal with those abuses and should be left alone by court to do so as part of its job. New technology like Multipoint Distribution Service had presented Commission with similar regulatory dilemma, and FCC had acted in much same way as in DBS, Armstrong said. Another of tribunal, Judge Oscar Davis, called that argument "bootstrapping" because MDS situation has yet to be tested in court.

Court also heard appeal of Commission's grant to GTE Satellite to lease Canadian transponders on Anik satellite so its customer USCI can offer direct-to-home programming in

fixed satellite band. U.S. Satellite Bestg. (USSB), which holds DBS permit, brought that case, claiming that GSAT misrepresented facts in initial filing. Broadcasting issue arose here too -- FCC lawyer Gregory Christopher saying that neither common carrier GSAT nor programmer USCI could be regulated as broadcaster: "The question is not one of direct-to-home service but of leasing transponders... GSAT is a common carrier; it doesn't operate as a broadcaster."

Judge Mikva seemed to agree with Christopher's additional argument that Communications Act didn't contemplate such direct-to-home service, but said: "What I don't understand is how you can take a statute and say Congress didn't know about DBS so there is no need to pay attention to it." He later added: "Regardless of how this case comes out, I suggest you go back to the Hill. What you're doing might be necessary, but what you're saying doesn't fit with the words of the statute."

Strong wording concerned FCC lawyers, Christopher saying that he hoped Mikva "on reflection" would consider FCC's mandate to spur new technology to have greater weight. At worst, FCC source said, court probably wouldn't set aside USCI authorization, but might send decisions back to Commission to establish some "loose kind of regulatory framework" governing DBS.

NAB source gave same view: "The court most likely won't undo DBS, but will make the FCC take a harder look at what it hasn't done--regulate the service." After all, "fair is fair and broadcasters should be on the same footing if it's going to have to compete with a whole new medium." FCC legislative aides said there isn't any current effort to draft legislation to regulate DBS.

March 12, 1984

ANOTHER TRANSATLANTIC SATELLITE GROUP SEEKS TO CHALLENGE INTELSAT; CYGNUS EYES BOTH ATLANTIC & PACIFIC CUSTOMERS

Newly formed Cygnus Satellite Corp. has joined challengers of Intelsat's lock on international satellite market. Cygnus filed application with FCC March 7 to launch transatlantic system. Corporation, directed by several top M/A-Com DCC officials, seeks authority to construct and launch 2 operational satellites and one spare for service which could include international DBS. Cygnus requested Commission process application with those of Orion and International Satellite (ISI).

Majority of Cygnus board hails from M/A-Com DCC which is behind Capitol Hill effort to win Comsat divestiture, including Jack Shaw, M/A-Com CEO, James Peeler, senior vp-corporate development & secy., and Andrew Werth, senior vp-corporate mktg. President of new company is James Cuddihy, former vp-engineering, Group W Cable. Cuddihy is also pres. of Bypass Telecommunications, new company that has applied to FCC to build 60-city Digital Transmission System network.

Proposed system would be operated exclusively on private, non-common carrier basis. Cygnus will selectively market transmission capacity to U.S. and foreign markets, proposes to sell transponders or offer them through long-term leases. Services would include videoconferencing, high speed facsimile, computer-to-computer communications. System will be available for voice, but not for public switched voice services -- exclusion proposed by senior Administration officials evaluating such proposals. Additionally, system would permit international DBS.

Proposed system consists of 2 Ku-band satellites at orbital locations of 43 & 45 degrees west, to cover major centers of contiguous 48 states and western Europe. Cygnus also proposes to provide services on non-profit basis to Caribbean Basin area.

Regional satellite represents first stage of Cygnus's proposed multi-region international satellite network. Following discussions with foreign officials, Cygnus intends to file application to serve Pacific Basin.

Projected capital cost of system is approximately $226 million, with financial support coming from investing banking firm of Donaldson, Lufkin & Jenrette, Inc., United States Trust Co., and Perpetual American Bank, F.S.B. Cygnus's arguments for approval of application are that system will increase competition, reduce rates, ensure U.S.-based entities access to critical orbital locations. Cygnus said that system will "complement" services offered by Intelsat and others.

Scandinavia's planned TV satellite Tele-X, representing investment of over $7.7 billion, may be obsolete before it's even launched. Published report in Sweden quoted Bertil Thorngren, head of group planning for Sweden's National Telecommunications Administration, as saying: "Technical and economic developments have altered the situation for satellite TV." Emphasis has changed from DBS and having antennas on every rooftop to development of European cable networks, other NTA officials said. Higher power is contemplated for 2nd generation ECS satellite, which will provide distribution to European cable networks. Europeans hope that 2/3 of all households will be wired within decade, leading many telecommunications policy makers to conclude scheme will make DBS obsolete. Final blow to Tele-X may have been decision not to scramble ECS programming -- decision which effectively made as many as 10 channels available free to many in Nordic countries. Still, report quoted Lars Backlund, Tele-X project manager, as saying: "It will take a decision on media policy to kill off Tele-X, and I don't think the politicians want to make that decision."

Direct Best. Satellite Corp. has gone to Wold Communications for help in marketing its common carrier DBS transponders. Six national and 24 spot beam channels will be marketed exclusively by Wold to subscription and advertiser-supported TV programmers, radio and other audio programmers and to corporations for such uses as corporate video, voice, data & facsimile. DBSC Pres. Wilbur Pritchard said deal with Wold "will help convince programmers and the financial community that DBS has a great future. A company with Wold's tremendous track record knows what it's doing." Wold Pres. Gary Worth said DBS would be able to compete "aggressively" with "all other video delivery systems."

Institute for Graphic Communication is sponsoring DBS conference June 24-26, Holiday Inn, Monterey, Cal. Contact: Richard Murray, IGC, 375 Commonwealth Ave, Boston, Mass. 02115, 617-267-9425.

March 19, 1984

HOUSE PANEL ATTEMPTS SALVAGE OF NASA ACTS FLIGHT PROGRAM

Congressional battle with Administration to revive Advanced Communications Technology Satellite flight program began last week as House Space Science Subcommittee added $40 million to NASA's FY 1985 budget to fly satellite with next generation technology. Subcommittee Chmn. Volkmer (D-Mo.) added report language to bill directing NASA Administrator to examine "recompetition" of ACTS contract, for which lead contractor -- RCA -- was selected last year.

Capitol Hill sources told us other subcommittees with jurisdiction over NASA would take similar action, although other markups are still several weeks off. Sen. Lautenberg (D-N.J.) indicated in recent Senate hearing his intent to add about $40 million for ACTS in Senate authorization markup of NASA FY 1985 budget. Well-placed source said funding increase isn't likely to be opposed in Senate.

RCA, with partners TRW & Comsat, was only team to submit ACTS proposal to NASA during competition last year. Just before signing contract that would have committed NASA to more than $90 million expenditure on program in FY 1985, Hughes stepped in with Ka-band filing with FCC. Relying on argument that Hughes proposal would fly 30/20 GHz technology at

no cost to govt., Hughes action convinced Administration to cancel ACTS flight program in favor of scaled-down ground demonstration program. Office of Management & Budget then cut original request of $92 million for ACTS to $5 million. As result, RCA contract still hasn't been signed. NASA hasn't made clear how much will be spent on revised program or what will be included.

ACTS amendment to NASA bill was offered by Rep. Brown (D-Cal.), who said he would have proposed full restoration of $90 million for ACTS, but because of delay in contract start-up, only $45 million could be utilized in FY 1985.

Brown called OMB actions "extremely unwise" and criticized NASA's "on-again, off-again approach" to communications R&D. He said ACTS flight test was "almost mandatory for the economic future" of U.S. Amendment received strong support from Reps. Nelson (D-Fla.) & Torricelli (D-N.J.), passed by voice vote.

Contract recompetition, as proposed by Volkmer, "could kill the program," source close to ACTS, who requested anonymity, told us. Volkmer said he was concerned over ACTS impact on Hughes, wanted to "provide fairness for those who are still interested" in ACTS. Volkmer said he heard that "RCA may decide to withdraw unless something is done in the near future." Recompetition would leave opening for "Hughes or anyone else," he said. It was unclear whether Volkmer intended contract to be recompeted only if RCA backed out.

RCA official had little comment on markup but said RCA has no intention of withdrawing its proposal. On contrary, RCA is ready to sign contract which was negotiated in good faith, he said. Govt. official said NASA won't sign contract until NASA authorization and appropriations bills have passed Congress and been signed by President, which may be midsummer.

Satellite industry experts testifying before recent Senate Space Subcommittee hearing joined in criticism of ACTS curtailment. Witnesses said Hughes filing had created confusion. Elizabeth Young, Public Service Satellite Consortium pres., said: "The Hughes filing is an important event and does represent a bold move by Hughes Galaxy Inc. It should not, however, be confused with the tenets of the ACTS program nor considered to be a substitute to attain the ACTS goals established by NASA in concert with the industry... It is evident the [Hughes] proposed system is responsive to their perspective of what the marketplace will need in 1988 and not necessarily responsive to the technology needs of the 1990s."

Foreign competition to U.S. satellite manufacturing predominance is growing, Young said, pointing out that "world's first domsat prime contract" outside U.S. & Soviet Union -- for Arabsat -- was awarded recently to Aerospatiale of France. Japanese satellite manufacturers also are gaining expertise, having already launched experimental satellite for Ku- and Ka-bands, also are leading suppliers for Intelsat earth stations, are likely to take lead in sale of special DBS reception TV sets.

"It is clear that U.S. industry no longer dominates the satellite communications market," she said. "It appears that both Japan and Europe have decided to forego major competition at C- and Ku-band and to leapfrog technology by concentrating on the 30/20 GHz band."

Emanual Fthenakis, Fairchild senior vp, said Hughes proposal was "very cunning, very ingenious, very clever," but technically inferior to ACTS. He echoed Young's statement about foreign competition, citing 2 examples involving Fairchild subsidiaries. Spacecom, which owns and operates Tracking and Data Relay Satellites, was forced to purchase 20-GHz traveling wave tubes from Germany, and American Satellite had to turn to Japan to procure fast time division multiple access system, he said.

He also criticized NASA for ACTS procurement structure, which created difficulties for satellite carriers that wanted to participate in ACTS orbital test program. Participation requires "early deployment of expensive, specialized ground segment facilities," despite limited life expectancy of space segment and lack of backup, he said.

CHARYK & GOLDSTEIN DEFEND SBS, LEAVE THEMSELVES AN EXIT; 1984 SAID TO BE YEAR IN WHICH PARTNERS MUST BE FOUND FOR DBS

Comsat's Chmn. Joseph Charyk & Pres. Irving Goldstein said they were optimistic about company's prospects but then spent much of an evening defending themselves from skeptical questioning at dinner last week with Washington communications journalists. Highlights of on-the-record briefing:

Comsat is pleased with new leadership of SBS and claims to be optimistic that it will soon turn profitable, but won't commit itself to continuing as member of SBS partnership indefinitely. SBS was dominant topic at dinner, with Charyk & Goldstein each insisting that new SBS Pres. Stephen Schwartz has qualities necessary to staunch losses now running at about $3 million per week.

But asked directly whether Comsat was committed to staying course, Charyk ducked, said he wouldn't comment "one way or the other" on "the extent to which we will be involved... in the future." Goldstein said Schwartz has already submitted plan for "course correction" to SBS's partners -- plan that Goldstein said is "not radically different" but which "in the short run will get losses down." Goldstein & Charyk declined to put timetable on when SBS would break out of red ink, or to specify details of Schwartz's plan. But both made it clear that current SBS national network of 20 earth stations needs to be expanded to more cities to improve viability of system and to reduce amount of revenue currently diverted to AT&T for call completion.

This will be year that Comsat must secure partners for Satellite TV Corp. if plan is to go forward. Charyk said there's "enormous potential" for STC but suggested that without partner or partners, project couldn't continue. Goldstein said discussions are continuing with CBS and others. Charyk acknowledged that it had been hoped that partnership issue would have been settled by now--"to that extent, it's not moving as we had hoped." But development of earth segment hardware, especially descrambler, has moved very well, Charyk noted.

Evening ended with slap at Comsat's DBS competitors. Goldstein produced 3 umbrellas: Big one, which he said represented size of dish needed to receive from Hughes' Galaxy satellite; medium-sized one, which he said was size required for USCI reception; itsy-bitsy one, which he said would be size of STC's antenna.

German TV-Sat, scheduled for launch in fall 1985 on Ariane 2, will start pre-operational DBS services in 1986. While France is looking for private partners in Luxembourg for utilization of its TDF-1 satellite, Germany is offering DBS capacity on TV-Sat to private company. Consortium formed by German publishers, Presse-Fernsehen-Gesellschaft, is interested in leasing one of 3 DBS channels to broadcast commercial TV programs to Europe. It would obtain lease of German Spotbeam West transponder on Eutelsat I-F1 after Jan. 1, 1985 for preparatory Pan-European broadcasts to cable systems.

Helvesat, Swiss direct broadcast satellite, may get go ahead in next 6-8 weeks. Report on DBS proposals and requirements was prepared recently by Swiss Ministry for Transportation, Energy & Communications, will provide background for govt. decision. Swiss companies hoping to use DBS channels are: Tel-Sat of Basel (aiming to program 3 channels in French, Italian, German), Rediffusion of Zurich (hoping to transfer Pay-Sat from European Communications Satellite to DBS), governmental Swiss Broadcasting (seeking to transmit via DBS 2 hours per day).

March 26, 1984

DBS ON FRONT BURNER AT AIAA SATELLITE PARLEY

ORLANDO: DBS was top of agenda as about 300 satellite engineers gathered in Orlando last week for AIAA's biannual satellite communications systems conference. Three-day event was, as usual, both significant & substantive from technical standpoint, although mostly dry stuff for those not directly involved in technical side of business.

Only fireworks were at opening plenary session, where Stanley Hubbard, pres. of U.S. Satellite Bcstg., and Wilbur Pritchard, pres. of DBS Corp., engaged in satellite industry's favorite sport--Comsat bashing. They criticized Comsat for developing DBS system incompatible with other DBS services, suggested that Comsat & CBS could be DBS orbital & spectrum hogs, leaving few decent frequencies available to competitors.

Papers presented were all technical. (Copies can be obtained from AIAA, 1633 Broadway, N.Y.C. 10019.) Theme of DBS papers: There really are very few technical challenges remaining. Thoughts of engineering community are starting to focus on 2nd generation systems.

Two themes emerged in corridor chat. First was skepticism that advanced fixed-satellite systems described in formal sessions will really be required quickly, given soft demand for transponders, reality that orbital arc isn't saturating as fast as some consultants claimed it would. Second, curiosity about DBS economics & politics -- subjects not covered in formal sessions.

RCA is developing for Satellite Television Corp. sharp-signal shaped beam antennas for 2 direct broadcast satellites. STV is paying more than $100 million for DBS satellites to go into operation in 1986. According to RCA, system will be capable of broadcasting to about 80% of nation's households equipped with 2-ft. antennas.

United Satellite Communications Inc. has purchased 100 hours of programming from Canadian Bcstg. Corp. for DBS.

FCC DBS Advisory Committee transmission standards subcommittee will meet March 30 in Washington.

April 2, 1984

China Bcstg. Satellite Corp. recently had talks with Transportation Dept. officials on U.S. expendable launchers and with other U.S. govt. agencies on plans to acquire direct broadcast satellites and launches. NASA was contacted last summer for information about using space shuttle; Commerce Dept. was contacted about export license requirements. China has asked Comsat for assistance in writing technical specifications for DBS system. Tom Calvit, project dir., said Comsat has correspondence going with CBSC, but no contract has been signed to help China select system supplier. Although U.S. agencies have sent requested information, no response has been received from CBSC. NASA believes CBSC also has contacted France & Germany for information. According to Commerce Dept., China will issue RFP in June.

April 9, 1984

LUXEMBOURG GIVES GREEN LIGHT TO INTERNATIONAL INVESTORS IN CLAY WHITEHEAD'S EUROPEAN SATELLITE SYSTEM

Three Luxembourg companies are being formed, with American backing, to establish first private European medium-power satellite system, Satellite Week has learned. Luxembourg official told us last week that country is negotiating with international investors to launch Grand Duchy of Luxembourg (GDL) satellite system. GDL, which will be Europe's first American-style multi-purpose system, will be used primarily for transmissions to cable systems and to individuals with small antennas.

One company, Coronet S.A., already has received draft franchise agreement from Luxembourg to use GDL for cable TV distribution. Luxembourg sources told us that Clay (Tom) Whitehead, pres. of National Exchange, applicant at FCC for domestic U.S. & DBS satellites, expects to be investor in Coronet S.A., which will operate satellite, with rights to sell & lease transponders. Final legislative authority from Luxembourg Parliament for franchise is expected within 2 weeks.

In addition to Coronet, sources told us Whitehead is involved in formation of 2 other firms, SLS and a holding company, which are intended to guarantee Luxembourg's control over GDL system. Our special correspondent in Luxembourg said govt. doesn't want to repeat unhappy experience it had with Radio-Tele Luxembourg (RTL), which is nominally controlled by others. RTL, commercial company to which Luxembourg has franchised its broadcasting rights, is owned by Compagnie Luxembourgeoise de Television (CLT), whose biggest shareholders are French institutions.

While final arrangements aren't settled yet, it appears that govt. will grant franchise rights to SLS (Societe de Luxembourgeoise Satellites) which in turn will sub-franchise distribution rights to Coronet. SLS will be established as quasi-governmental, quasi-private licensing entity. Holding company also is being formed to pool Luxembourg financial community's investments. This firm will have voting control over SLS. Sources said Whitehead wasn't sure whether he would be investor in holding company.

Coronet's start-up costs are estimated at around $40 million; total investment in system is expected to be $180-$200 million. We're told Whitehead was confident that project would succeed because of rapidly growing acceptance of cable TV in Europe. Whitehead has told others that he's talked with many European & American companies interested in putting together & distributing TV programming, including pay TV and music channels. Luxembourg embassy official in Washington said it's clear that "American companies will be involved." Speculation in Luxembourg, one source said, is that HBO would be a major investor. HBO spokesman Alan Levy told us that company hasn't been approached yet but "would seriously consider participation" if asked.

Gustave Graas, dir. gen. of RTL, expressed skepticism about financing. "People negotiating the project say there is plenty of money, but nobody knows who the investors are," Graas told us. Perhaps, he said, investors would be "American broadcasters who would be interested in coming into Europe." Graas said real problem with GDL is that TV programs will be going over PTT frequencies and wasn't sure all countries -- especially France -- would give authorization. "I hope that people who are investing know what the situation is," Graas said.

RTL was offered transponders on GDL satellite, Graas said, but wasn't interested. He said RTL was close to finalizing deal with France for use of 2 transponders on forthcoming TDF-1 DBS satellite. Whitehead, we're told, still expects RTL to be prime candidate for using Coronet's system. It would be awkward for RTL to say anything publicly about interest in Coronet while still negotiating with French for use of TDF-1, Whitehead told one of our sources. There have been discussions with American satellite manufacturers, a Whitehead associate confirmed, but no contract has been signed.

Whitehead has been serving in advisory role to Luxembourg govt. in its efforts to establish GDL satellite system. Luxembourg has applied for 3 orbit positions with ITU -- at 20 west, 1 east & 19 east. Launch of first GDL satellite is planned for late next year on Ariane or shuttle.

Whitehead's National Exchange has submitted number of applications to FCC for satellite orbital positions. Company intends to provide business communications in U.S. using clusters of C- & Ku-band satellites. It also has asked FCC for authority to launch DBS system. Whitehead, former dir. of White House Office of Telecommunications Policy (1970-74), where he was author of U.S. open skies satellite policy, is former pres. of Hughes Communications Galaxy.

USCI REALIGNS MARKETING PLAN AGAIN, ABANDONS DISH LEASING

United Satellite Communications has dropped its leasing plans for DBS dish, along with last month's $795 purchase price and year's free programming. Subscribers now can buy at $495 in Philadelphia, Dayton & Cincinnati, $395 in Washington, Baltimore, Indianapolis & Chicago, with $24.95 monthly charge for programming.

Latest shift is 3rd adjustment in as many months. USCI was in "test marketing phase," according to Frank Sterling, strategy & planning vp of USCI partner General Instrument. Company had "far more orders than it is possible for them to fill."

Meanwhile, company has had no takers for its $40-million private offering through Salomon Bros. and Morgan Stanley, we're told, although neither financial house would comment. Backers Prudential and General Instrument reportedly are ready to cough up more cash--$5 million and $1.6 million, respectively -- if offering goes through. Until then, Prudential and investor Francesco Galesi have drawn line on further funds.

GI, however, may be coming to rescue with needed equity. "GI feels that this company continues to offer a strong chance for success," Sterling told us. "We feel positively toward financing the company and have made certain moves toward that."

Other angel could be GE, although little has surfaced from discussions but rumors. One possibility is that company wants to get into home receiver market -- it already has non-exclusive arrangement to provide dishes. Meanwhile, Wall St. analysts continue to question effectiveness of USCI's management. "That company leaks like a sieve," Salomon Corporate Finance Vp Richard Beatty told us.

USCI gave its first sales figures, said it added 8,000 subscribers per month in first 5 months, with Baltimore, Philadelphia & Washington, D.C., 21% of its potential market in 1984, accounting for 6,000 monthly. Company's sales were well ahead of projections, according to USCI Pres. Nathaniel Kwit, though he declined to release total figures.

Direct Best. Satellite Corp. signed $177 million contract with Ford Aerospace for 2 high-power Ku-band satellites. If DBS Corp. secures financing, 2 will be launched on Ariane rockets in March & Sept. 1987. Contract also provides option for 3rd spacecraft to be used as in-orbit spare. DBS Corp. system hopes to provide 6 national channels of entertainment & information programming via 2.5-ft. dishes. Six additional spot beams, each carrying 4 TV channels, are intended to serve major metropolitan areas in U.S. DBS Corp. will operate as common carrier rather than broadcaster, leasing all channels. Wold will be exclusive marketing agent for satellite capacity.

FCC Advisory Committee on DBS standards meets 5 days in Washington this month, discussing final reports prepared by working groups and how to integrate them into final report of subcommittees. Schedule: Working group on receiver compatibility will meet April 11 & 24 at 9:30 a.m., Rm. 7317, 2025 M St., NW. Working group on signal format, April 24, 9:30, CBS, 3rd floor, 1800 M St, NW; subcommittee on transmission standards, April 25, 1-3 p.m., CBS, 3rd floor; subcommittee on receiver standards, April 26, 9 a.m., all day, Rm. 7317, 2025 M St.; subcommittee on encryption standards, April 27, 9:30 a.m., Rm. 7317, 2025 M St. Contact: Bruno Pattan, FCC/OST, 202-653-9098.

April 16, 1984

CHINESE DBS PROJECT LOOKS LIKE EUROPEAN SHOW

Notwithstanding much touted agreement won by former President Carter under which Chinese had agreed "under suitable conditions" to purchase satellites from U.S., indications from Beijing suggest that when contract eventually is signed, it will be primed by European manufacturer.

Our European contacts inform us that contest has narrowed to 2 proposals: (1) Eurosatellite, teamed with MBB & Aerospatiale, is proposing Spacebus 100 platform (based on Arabsat), with payload of single operational 250-watt traveling wave tube amplifier, to be supplied either by ANT/AEG-Telefunken or Thomson-CSF. (2) Matra, teamed with Thomson, offering Telecom 1/ECS platform equipped with pair of 150-watt TWTAs or three 100-watt TWTAs, with latter option involving amplifiers identical to those used on Japan's BS-2/Yuri

satellite. While details were not available, it would seem that if Eurosatellite prevails, there could be share of work for Ford Aerospace, while if Matra group triumphs, British Aerospace could win piece of action.

China Bestg. Corp. is handling RFP, which is to be released officially in May-June, with decision on prime contractor supposed to be made by end of year. (Note: Chinese have well-deserved reputation for delay. In past, there have been strong signs that Chinese were pressing ahead. But China's chronic financial problems have repeatedly delayed its DBS plan. Further delays are not inconceivable.)

China plans to buy pair of satellites, with first to be launched at end of 1987, next to follow year later. Estimated cost of space segment is put in $100 million range. Earth segment supposedly will be geared to community reception rather than individual, with 1.8-3.0m indigenously manufactured antennas & receivers contemplated. Single color channel is planned.

TV receive-only equipment manufacturer, R.L. Drake Co., announced plans to begin manufacturing DBS reception equipment. Drake is building Ohio manufacturing plant that could be used for such production.

April 23, 1984

COMSAT EXPANDING TO JAPAN IN PLAN TO HALT TECHNOLOGY PRODUCTS LOSSES

Comsat and Sumitomo, Japanese trading company, have signed agreement to open Tokyo office for Comsat Technology Products (CTP), William Perigard, CTP pres., said at Washington news conference last week. CTP also will expand London office, Comsat U.K., to include marketing of all technology products. International efforts are part of "drive to be profitable" in money-losing CTP area, he said.

Hoping to reverse $9 million operating losses in 1983 for CT Pgroup, Comsat has begun push to increase product manufacturing via new Advanced Technology section and more aggressive marketing, Perigard said. Comsat subsidiaries -- Amplica, Telesystems, Compact Software -- are core of "new business segment" for Comsat, he said. CTP intends to offer "higher integrated product level" -- marketing more end products that contain CTP-built subsystems as opposed to emphasizing component sales to other end product manufacturers.

Ten-ft. 4-GHz TVRO dish probably won't make money until 1986, Perigard said. Dish isn't intended for direct broadcast satellite use, retails for about $3,000. Amplica sold 7,000 4-GHz dishes last year in "equivalent systems," which include final product & component sales. He projects 1984 sales of 10,000-20,000 systems, more in equivalent systems. "The marketplace is truly explosive... We project double growth in 1985," Perigard said.

Amplica's business plan is "predicated" on projections that TVRO dish market will disappear in 1986-87, although Comsat officials don't believe that will happen, Perigard said. Even if it does, Amplica plans to "make a lot of money on that product in one year"--1986, probably first year of profitability for dish, he said. Market for dish is rural, southeast, southwest, midland, he said: "We don't see STC [Satellite TV Corp.] footprint encompassing that part of the country." But if it does, 4-GHz dish will "whet the appetite" for STC service. DBS dish market has been conceded to Japanese since Amplica isn't equipped for mass production and couldn't produce millions of units per year as DBS will require, he said.

French direct broadcast satellite TDF-1 isn't obsolete, Eurosatellite declared in recent press release "clarifying" aspects of Franco-German project to build 2 DBS satellites. TDF-1 and German TV-Sat will be launched in late 1985. Eurosatellite release addressed debate over "various solutions for television broadcasting," said it has shown "complementarity of cable and satellites." Also evident from debate is fact that DBS can be accomplished with less powerful satellites and more expensive ground equipment, but that wouldn't fulfill TDF-1/TV-Sat requirements defined in 1980, Eurosatellite said. "There is a tendency to seek the highest

possible radiated power, which is amply demonstrated by the desperate race currently taking place in the United States between the companies recently authorized to propose commercial direct broadcast service," statement said. Eurosatellite said "heavy TDF-1/TV-Sat platform" was "advanced technical solution," and export of system depended on "veritable operational experience." Platform has been sold to Sweden for Tele-X and proposed to U.S. firm, U.S. Satellite Bcstg.

Comsat first quarter earnings were $12.4 million (68 per share), off $200,000 from same period year ago. Satellite Business Systems contributed $2.1 million (12) due to one-time gain resulting from Rupert Murdoch's $11.6 million out-of-court payment to SBS to conclude breach-of-contract suit. Net was up $3.7 million (21) from 4th quarter '83 to $105 million. Decrease from first quarter '83 earnings resulted from reductions in revenues from Comstar and Marisat satellite systems and increased DBS business costs, Comsat said. Company's share of losses from SBS partnership decreased to $3.3 million in first quarter 1984 from $5.5 million in same quarter '83 and $7 million in 4th quarter '83.

"No comment" was response of Satellite TV Corp. unit of Comsat last week to report in Variety that it's close to deal with Paramount unit of Gulf & Western to participate in DBS. STC official said it's company policy never to discuss partnership arrangements.

April 30, 1984

GLOOMIER OUTLOOK FOR SATELLITE INDUSTRY IS THEME AT SATELLITE SUMMIT

More somber attitude regarding tough realities of satellite business, maturing rapidly after decade of heady expansion, was evident at Satellite Summit '84 last week in Washington. Satellite executives at conference, sponsored by Satellite Week, are struggling with worsening oversupply of transponders, financing & insurance constraints, increasing competition from terrestrial media, especially fiber optics.

Alan Parker, Ford Aerospace Satellite Services pres., pointed to problems in financing new systems, regulatory delays with satellite construction approval, insurance woes, transponder profusion as "environmental factors" satellite applicants are facing. C-band is "buyer's market" today with plenty of capacity at attractive prices, Ku-band will be soon, Parker predicted. While demand for video services has tapered off, telecommunications use of satellite will grow, he predicted. "Many proposed satellites will never be built because financing won't be available," Parker said, pointing to "steely-eyed bankers" who insist on marketing assurances before providing funding. He said FCC has created "partial monopoly" on satellites with regulatory process, hinted at Ford's frustration that satellite construction contract can't be completed until FCC acts. "Selected companies can obtain market power from orbital assignments," Parker said later in apparent reference to Advanced Business Communications deal with Hughes with comment that new entrants with "little qualifications" can get conditional grants, then sell transponders to qualified operators.

Satellite demand forecasts, which at times have proved off the mark, should be looked at "with a large degree of loving skepticism," James Ragan, Western Union vp, advised. Ragan gave vague response to question of whether WU plans to enter international competition with Intelsat or Comsat. WU will "expand in whatever way is cost effective," he said. Ragan remarked that while many companies will struggle in domestic satellite business, a few will prosper. He singled out companies that are strongly positioned in domestic market now and are exploring international competition as most likely to succeed.

Steven Doyle, dir. of mkt. analysis & planning, Aerojet TechSystems, warned of problems likely to arise for U.S. satellite industry at 1985 World Administrative Radio Conference in Geneva. Doyle, who serves on National Advisory Committee that is preparing U.S. position for WARC, said committee has developed report that projects demands for fixed satellite services,

emerging spacecraft technologies for 1990s. Report also summarizes institutional & political viewpoints that are expected from other delegates, anticipated issues at WARC. U.S. will send delegation of 30 to Conference Preparatory Meeting in Geneva this summer to help prepare "documentation base" for WARC. U.S. shouldn't formulate "plan of attack" for WARC until "we come home" from CPM. He cautioned against proposals that U.S. withdraw from International Telecommunication Union, saying "I can't think of a more disastrous course for this country... The name of the game is to set up a mechanism by which all countries can get equitable and guaranteed access to the geostationary orbit through the year 2000."

Low-power DBS service via Ku-band satellite "works exceedingly well," said Richard Neustadt, vp & co-founder of pioneering Private Satellite Network. PSN markets customer premises private videoconferencing networks to U.S. companies, service Neustadt said is "in great demand if the price is right... The technology works extremely well, better than advertised." He said his experience has raised question whether high-power DBS is really needed. Videoconferencing will generate substantial demand for space segment in out-years if carriers are flexible in transponder pricing, he predicted.

European commercial satellite industry is in tumultuous state due to political conflicts across continent, said Janet Morgan, communications consultant to BBC. Morgan described Italian plans to use European L-Sat for DBS, W. German/French "minuet" on cooperative DBS project, Luxembourg scheme for pan-European DBS footprint, Irish satellite that might be used to promote public broadcasting services, British attempts to formulate space policy and promote competition.

Customer premises satellite services were endorsed by Steven Dorfman, Hughes Communications Galaxy pres., as important new area of satellite service. Ku-band is ideal for customer premises service, although Ka-band also would be suitable, he said. Growing use of Ku-band satellites opens possibility of extensive customer premises use. Asked whether Hughes will proceed with proposed Ka-band satellite system if RCA gets order for NASA Advanced Communications Technology Satellite, Dorfman said yes. NASA does U.S. industry service by developing technology, but it doesn't make sense for NASA funds to be spent on ACTS flight program when money could go to shuttle or planetary programs. James Tietjens, RCA Americom pres., said description of transponder overabundance as "glut" may be too strong, but there is overcapacity. Key to making satellite attractive is value-added service, he advised. RCA Americom has 90 protected transponders, 86 of which are revenue bearing, Tietjens said.

Japanese are negotiating with Hubbard Bcstg. over possible investment in U.S. Satellite Bcstg., DBS venture. Hubbard Pres. Stanley Hubbard said his company was approached by Okura & Co. trading company about investment. He said he told Okura that he would allow investment if Okura and other Japanese companies jointly could produce minimum of $30 million. Hubbard said he hasn't been advised of Okura's success, although Japan Economic Journal said Okura has partners and will invest in venture.

Arianespace won reservations from China Bcstg. Satellite Corp. to launch 2 DBS satellites in late 1987 & 1988. Reservations were announced just as President Reagan was arriving in China with offer to provide shuttle launch services to Chinese. Reagan also is expected to offer to fly Chinese mission specialist aboard shuttle. Arianespace official told us that Chinese also are expected to book shuttle slots for their satellites, make decision later which system to use. Arianespace now counts 19 launch reservations.

May 7, 1984

Egyptian direct broadcast satellite to serve Egypt & Sudan is under study by Egyptian TV & Radio Union (ETRU), with preliminary design due to be completed in 3-6 months. DBS Committee has been formed, with representatives from several govt. ministries, to study satellite, Farouk Amer, committee member, told us. Amer said Egyptian DBS is needed as modernization step. He said he's confident Egypt can afford system, which may cost as much as $300 million. For more information, contact Amer at: ETRU, TV Bldg., Maspero St., Cairo.

FCC NEARS DECISION ON 72 DOMESTIC SATELLITE APPLICATIONS

FCC will cover new ground this summer in dealing with 72 domestic satellite applications, which Commission still doesn't know how to handle, said speakers at "Expanding the Orbital Arc" symposium sponsored by International Law Institute and Federal Communications Bar Assn. in Washington recently. Lotteries and comparative hearings were discussed as ways of selecting winners, but neither alternative received even weak support from experts on panel. Possibility of auctioning slots wasn't discussed.

In past, FCC always found way to accommodate all applicants, so precedents are likely to be set this time. Ronald Lepkowski, chief of FCC satellite radio branch, said he hadn't "faintest idea what the FCC will do... but it will be far more different than what's been done in the past." When pleadings are in, staff will make recommendations, he said. (FCC has extended filing deadlines to May 15 for petitions to deny or comments, to June 19 for oppositions to petitions to deny and reply comments, to July 10 for replies to opposition and reply comments.)

FCC would like to grant all applications, Lepkowski said: "I'm not sure it can be done. We'll certainly try." Commission would prefer not to make evaluations. Instead, financiers should decide which applications are viable, he said. Options other than granting all applications include comparative hearings, finding more orbit slots, or expanding locations at edges of arc for east or west coast coverage, Lepkowski said. Uniform 2 degree spacing or less for Ku-band may be options. He said it's hard to envision how lotteries would work in business like satellites.

Experience with conditional grants, which were used for first time last year with Advanced Business Communications, Rainbow & U.S. Satellite Systems, will have to be reviewed by FCC to see whether they are viable, said Lepkowski. Rainbow & USSSI have asked for extension of deadline to demonstrate qualifications, ABCI has made unusual financial agreement with Hughes.

Leslie Taylor, GTE Spacenet regulatory affairs dir., said many companies are preparing comments on processing methodology. In face of FCC predisposition toward lotteries, creative alternatives are needed, she said. Although predictions for industry are gloomy in short term, techniques for increasing satellite capacity will be needed in long run, Taylor predicted.

Gary Epstein, attorney who used to head FCC Common Carrier Bureau, said he sees 4 big issues in domestic satellite area: (1) Nov. 7 applications raise 3 questions -- How many slots are there? Who's eligible to apply? How to pick from applicants? May 15 comments will focus on these questions. Epstein called comparative hearings "terrible," said lotteries raise "difficult problems of an arbitrary nature," and auctions may not be permitted. (2) Competition with Intelsat. RCA application in particular is tied to domestic processing issue. (3) Space World Administrative Radio Conference 1985. (4) Direct broadcast satellites. Are they viable? Will regulatory policy on DBS conform with that on fixed satellite?

"Soap opera issue or Perils of Comsat" headed list of new issues cited by Epstein. "Comsat seems to be coming apart at the seams" because of dual role as regulated and competitive communications company, he said. Domestic satellite industry also will be affected by Star Wars/technology problems, he said. "Exciting rumors about rescue" of Westar 6 and Palapa B-2 could result in action that will affect FCC satellite processing, he pointed out.

BRITISH DBS GETS NEW GOVT. CHARTER

LONDON--Thatcher govt. May 8 revealed plan to save Unisat DBS scheme from collapse. But only time will tell if latest DBS policy has any more viability than previous ones.

Latest declaration was made in House of Commons by Home Secy. Leon Brittan, who outlined scheme that would give 3-year monopoly to DBS consortium to be formed by BBC, independent TV companies and independent producers. BBC would have 50% of venture, to be financed by borrowing. Independent TV companies would get 25%, in return for which their highly lucrative franchises wouldn't have to be advertised (put up for bid) when they expire in 1989. Important string attached: DBS partners would be required to use satellite system being developed by United Satellites (Unisat) consortium.

Acknowledging that project involved high risk and substantial investment, Brittan said there is to be "no pressure or coercion" on independent companies to participate. "The companies must decide for themselves" whether to participate "because it is their shareholders' money which will be at risk."

New joint body would have to be set up to oversee DBS project, with members drawn from BBC & Independent Bcstg. Authority (IBA), latter being regulatory authority for independent TV.

First reactions to Brittan's statement were subdued. BBC official expressed disquiet that govt. intended to allow competitive DBS services. Although it wasn't clear whether 3-year monopoly period begins now, at conclusion of negotiations or on start of service, it's clear that BBC doesn't want competition before new system has chance to be fully established and profitable.

Independent TV companies seemed resigned to DBS project. While we were unable to find anybody who considered that project could become profitable for long time, they appear satisfied that almost guaranteed renewal of their franchises would more than compensate for losses suffered by DBS.

Labor party's domestic affairs spokesman Gerald Kauffman said that in place of properly structured broadcasting system that has existed for 60 years, govt. was setting stage for "Tower of Babel with people plunging their hands in to make profits at the expense of consumers."

Despite confidence with which Brittan put forward govt.'s plan, there would still appear to be many opportunities for project to founder. Specific negotiations must be held to agree on price for Unisat. Financial viability of project also may hinge upon future developments with respect to govt.'s policy to encourage development of cable TV.

FORD AEROSPACE FORESEES END TO BUYER'S MARKET FOR TRANSPONDERS

DENVER -- Ford Aerospace's transponder market projections indicate current glut won't last forever and capacity will be in demand again when Fordsats become available in 1988, Petra Kahn, Ford Aerospace business development mgr., said last week at '84 Sat Expo conference here sponsored by Channel Guide.

Jeffrey Moritz, ex-U.S. Satellite Systems official, also spoke at conference, offering grim assessment of future for high-power DBS. Moritz is exec. vp for strategic planning and development for Sat Corp., N.Y. investment firm specializing in satellite user businesses. He predicted Satellite TV (STC) may be ultimate loser in DBS, with HBO having good chance of surviving as DBS winner.

Moritz said latest rumor on STC is that partnership with 3 others -- CBS, Gulf & Western and GE -- is in works. He predicted future problems for STC because high-power transponders that could cost more than $80 million each will be too expensive, said medium-power transponders, priced at $5-$6 million, will be much better buy for distributors.

Moritz's assessment of United Satellite Communications (USCI) was that company made major mistake when it grew from 9 to 300 employes in 12 months. "I think their business plan is to spend as much money as they can as fast as they can, get everybody in too far so they can't get out." Rupert Murdoch may put some money into USCI, Moritz said: "I hope he does. I don't

like the N.Y. Post." In predicting HBO "will be the real winner in the DBS business," Moritz noted that company was waiting on sidelines now, but "when everybody else gets their brains blown out, then they'll buy their own satellite." He added that HBO is talking to satellite companies now.

Moritz said he gained his expertise in satellite services from making every mistake in book as founder, in 1981, of USSSI. In 1983, after raising $30 million for company, Moritz left to become investor in satellite user businesses, moving away from transponder ownership. He said: "It is a buyer's market, so I became a buyer." First business acquired by Sat Corp. was Campus Entertainment Network, Ku-band user that plans to provide satellite videoconferencing services to 300 campuses. Second acquisition was Black Tie Network, also Ku-band user, for distribution of entertainment events.

May 21, 1984

National Satellite Cable Assn. board meeting is scheduled for June 3 in Las Vegas. Agenda includes NSCA update, legal defense fund, National Programming Co-op Program, update on DBS & SMATV. Contact: NSCA, 202-659-2928.

May 28, 1984

U.S. Satellite Bcstg. expects to select satellite supplier by June 15 for 2 operational DBS satellites and option for 3rd, with firm contract to be signed in July, USSB told our European correspondent. Due diligence objective imposed by FCC requires that contract be signed by July 17. USSB also is "actively negotiating with Arianespace for the procurement of 2 launch vehicles," said Paul Heinerscheid, USSB dir. of technical operations. "But I cannot determine at this point... whether these negotiations will be successful... The only reason we paid down $100,000 in earnest money for a space shuttle launch was to protect our schedule due to the very crowded manifest. However, this precautionary action did not indicate a final choice of the space shuttle on our part."

June 4, 1984

NASA has imposed June 8 deadline for Westar 6 & Palapa B2 underwriters and owners to request salvage mission. Some insurers were hopeful resolution of issues surrounding rescue could be accomplished last week at N.Y. meeting of London and U.S. Palapa B2 underwriters, but meeting was canceled. Underwriters apparently thought they had 2 options -- to follow lead of London underwriter Merritt Syndicates or U.S. group Intec. Unexpected 3rd potential leader, Wilbur Pritchard of Satellite Systems Engineering and DBS Corp., attempted to step forward but was rejected by underwriters, we're told. Attempt to bring Pritchard in was sponsored by underwriting firm, Lexington Insurance. Underwriters didn't want 3rd option, source said. Now rescue mission supporters are faced with major problem of NASA-imposed deadline. Meanwhile, NASA astronauts Joseph Allen & Dale Gardner began practicing for mission in Martin Marietta Denver simulator in May. NASA shuttle mktg. official Chester Lee traveled to Indonesia recently to negotiate rescue agreement and discuss launch option for Palapa B3 replacement bird. NASA spokesman said Lee didn't get agreement for rescue from Indonesians.

French President Mitterrand, speaking on May 24 to representatives of European Parliament at Strasbourg, recommended satellite ventures as means to unify European countries and served as salesman of sorts for TDF project. He invited European deputies to consider launching pan-European DBS channel with one repeater from TDF-1 and participating in project to launch manned space station.

FCC accepted 4 DBS applications for filing last week: Advanced Communications, Hughes Communications Galaxy, National Exchange, Space Communications Services. They were filed

before Jan. 12 deadline and bring to 7 total number of 2nd round DBS applications accepted by FCC.

June 11, 1984

UNITED SATELLITE'S MONEY WOES BUILD, INSTALLATIONS LAG

United Satellite Communications' (USCI) attempt at raising $40 million in equity market "didn't work," Pres. Nathaniel Kwit told Wall St. Journal, but he claimed that DBS company will get money it needs "because there's a business out there and it's there now."

GE and GTE are possible financial angels, according to well-connected sources. GE, which recently sold major GE Cable Systems to United Artists, is said to be pursuing participation in businesses where it can be leader in field, not one of crowd. But in case of fire sale at USCI, GE could be persuaded, we hear. GTE, which hopes to distribute USCI on its forthcoming GSTAR satellite system, also is said to be studying acquisition of USCI shares.

"They don't want to pay anything for [USCI], and they don't want to retain the management. If it folds, they may be willing to pick it up," authoritative source told us.

Kwit told Wall St. Journal that sales are ahead of projections, averaging 10,000 a month in cities whose population is 13% of U.S. Our sources told us different story. We've learned that, a few weeks ago, some 6,500 USCI dishes had been installed and that company had backlog of some 6,500 orders. USCI supposedly has had 100 crews in field, each able to install about 1.3 dishes per day. Working a 6-day week, these crews ought to have been able to install 780 dishes per week. But orders are not being filled, story goes, because company doesn't have money to purchase equipment.

Paul Kagan's Pay-TV Newsletter, on May 25, said that USCI will sever its relationship within 30 days with RCA Service Co., which had been USCI's exclusive installer. RCA officials said last week they knew nothing about Kagan report, that their contract runs through Nov. "and we intend to honor it."

None of these reports could be confirmed with USCI, whose officials did not return our telephone calls last week.

Company also seems to be having zoning problems. It recently filed petition requesting FCC to issue declaratory ruling "regarding extent of federal preemption of state and local regulation of domestic satellite receive-only earth stations." (Comments are due July 16, replies Aug. 6.)

Time Inc. board meets next month to review HBO's business plan for DBS, we're told. Plan calls for HBO to take lead in developing medium-powered Ku-band satellite service that would feature HBO and other programs transmitted in scrambled mode to variety of low-cost, small-aperture terminals -- including individual, SMATV.

Germans were touting DFS/Kopernikus and TV-Sat/TDF-1 satellites as their first commercial successes in communications satellite area at Hanover International Aerospace Exhibition in May, our European correspondent reports. Satellites will be launched on Ariane 3 or 4 in 1987. Also at show, Eurosatellite announced construction of TDF-2. After agreement between Luxembourg and France on lease by CLT company of 2 DBS transponders on operational TDF system, Eurosatellite is assuring that 2nd TDF bird will be built. Eurosatellite also awaits RFP release from Chinese for China Best. Satellite System. Chinese delegation visited Hanover exhibition. Eurosatellite, which is teamed with GE to compete for U.S. Satellite Bestg. (USSB) contract, apparently is concerned over recent failure of 2 transponders on Japanese BS-2A satellite. Transponders were provided by GE and French company, Thomson.

Talks between Pakistan govt. & Arianespace could lead to country's launch of DBS bird by 1988, according to Islamabad press report. While in Pakistan for discussions with SUPARCO, Michael Glavany, gen. mgr. of Arianespace sales & mktg. in Asia & Latin America, told The Muslim newspaper that flight could be arranged by 1988 if country can place order next year.

Full FCC advisory committee on technical standards for DBS will meet June 15, 9:30 a.m., Rm. 330, Washington hq.

June 18, 1984

DBS ADVISORY COMMITTEE FAILS TO SET STANDARDS

Handicapped by unwillingness to share proprietary information and by divergent views on what standards will best benefit DBS, working groups of FCC Advisory Committee on Technical Standards for DBS Service have proposed few definite rules for DBS receivers, signal format and encryption. Absence of consensus disheartened some FCC observers, but Commission nonetheless is reluctant to impose standards when industry can't be encouraged to adopt its own voluntarily.

Industry participants could be divided roughly into 2 camps: (1) Those who felt that if industry is allowed to develop as number of independent submarkets based on different signal formats, encryption systems and receiver interfaces, DBS will never reach its full potential. (2) Those who thought that imposing standards would bring undue costs on equipment and service, which then would handicap DBS in competition with alternative services.

Receiver standards subcommittee also was split, reaching consensus on only few of many issues it identified as important. Group did note that, whether or not standards are imposed, Satellite TV Corp., which is expected to be first commercial DBS service, may well establish de facto standards.

Receiver standards group did agree in principle that to foster competition in manufacture and sale of home terminal equipment, it's "desirable to provide standard interfaces which will allow customers to buy subsystems from different suppliers." Consumer then could buy antenna, low noise converter and indoor unit from 3 different suppliers. Panel said that, at minimum, receivers should be able to be tuned, without tools, to any of 32 channels over entire 500-MHz band, but not necessarily without needing adjustment. Upscale options include rotary channel selectors, full 32-channel capacity without need for tuning, high-definition TV capability. Majority of working group members also recommended that all receivers, "as a voluntary standard," be designed to pick up clear or unencrypted channels broadcast by other programmers.

Transmission standards group didn't recommend any one signal format, but majority of members advised industry to "pursue" time multiplexed analog component format (TMAC) rather than composite format of NTSC now in use in TV sets.

Encryption standards group was probably quietest, members having little to reveal to each other on their encryption systems.

Given proprietary interests and early stages of transmission technolgy, Bruno Pattan, FCC observer on subcommittees, said groups did "best they could under the circumstances." Another industry participant said groups "went as far as they could go at this time." Subcommittees unanimously recommended that they disband, at least for now, leaving task of further DBS standardization process in hands of other industry associations. Recommendations now will be compiled at committee level, submitted to Commission by end of June. FCC then will decide for itself what, if any, standards should be mandated.

United Satellite Communications (USCI) isn't undercapitalized, Pres. Nathaniel Kwit told us in response to last week's report. Parent Prudential Life Insurance continues to fund

operations of DBS company, and USCI hopes to be raising more money "shortly," Kwit said. He wouldn't provide details except to say effort wouldn't take form of private offer, such as one that failed to raise desired $40 million earlier this year. Kwit blamed general slowness of market for lack of response to offer. He said that figure of 6,500 backlog in orders was "way off" -- there had been 8,000 backlog after USCI opened up Baltimore-Washington area, but "that's a sign that business is good," Kwit said. He denied company was short on equipment or was contemplating dropping its relationship with RCA Service Co.

RCA Astro has tested Nippon Electric-developed high-power traveling wave tube amplifier and found it capable of providing up to 230 watts. TWTA, designed for use on RCA's DBS satellite proposed for Japanese BS-3, will make reception possible using 2-3-ft. dishes, RCA said. Based on tests, RCA said it will consider using production models of tubes on future DBS programs. Japan has had problems with other high-powered tubes; 2 of 3 aboard in-orbit BS-2, built under supervision of GE, have failed.

June 25, 1984

In DBS area, where 8 firms face July 17 deadline to present binding contract to build bird, Commission late June 15 approved modifications to construction permits for CBS and Dominion Video Satellite but said neither had met all "due diligence" requirements. Dominion originally proposed providing DBS service to entire U.S., using 8 channels on 4 satellites. It later modified that to 24 channels on 4 satellites, but FCC was willing to approve increase only to 12 channels on 2 satellites. CBS, which proposed DBS using high-definition TV, modified request to 6 channels on 2 satellites instead of 3 channels on 4. Dominion later made 2 submissions to FCC further detailing its intentions. Both filings said Dominion had signed deal with Hughes Aircraft for at least 2 spacecraft and gave prospective launch dates. U.S. Satellite Bestg. (USSB) also has announced satellite deal, with RCA Astro Electronics. Pres. Stanley Hubbard wouldn't reveal details of contract to build RCA birds except to say it was "firm, binding" agreement for construction of 2 satellites. We heard RCA's price was cheapest, Hughes's 25% more expensive, British Aerospace's 40% more. Hubbard said USSB last week filed amendment at FCC under requirement to show due diligence to launch its system. Filing asserted that because of Commission's rulings on CBS and Dominion, slots company had requested -- 101 & 148 degrees west -- now were uncontested. Hubbard said USSB wouldn't build spares unless it needed them, that reliability of satellites was such that "they probably won't be needed."

Promoters of Britsat, which is seeking to provide American-made DBS satellites to British broadcasters, tell us they're confident that they can provide capacity at price far lower than can be offered by United Satellites consortium of British Aerospace, British Telecom & GEC. John Anderson, managing dir. of Britsat, and Lloyd Ludwig, former Hughes Aircraft executive who is technical consultant to company, in visit to Satellite Week said their system would provide 5 DBS channels as opposed to 2 in United Satellite's Unisat design. Britsat's satellites would be purchased from either RCA or Hughes. Britsat intends to provide satellites offering full power available under 1977 WARC plan for Europe, also hopes to provide satellites to Irish, who share same orbital location as U.K. If Britsat could win both jobs, its system could provide as many as 10 DBS channels. Contact: 01-543-3676 (from U.S., 011-44-1-543-3676)

Satellite Business Systems is about to sign sale & leaseback deal on its SBS-4 satellite, scheduled for launch via space shuttle Discovery on Aug. 29, according to authoritative sources. SBS asked FCC last week for expedited approval of its request to modify SBS-4 with 40-watt spotbeam transponders for use by Satellite TV Corp. in its early-entry DBS service. Request for approval is pro forma: In reality, satellite already has been modified, is now at Kennedy Space Center awaiting processing. In FCC filing, SBS noted that it needs formal approval of modification so that it can complete new financing arrangements for SBS-4. If sale-leaseback is completed, it would mean injection of cash for SBS. SBS Thurs. wouldn't identify prospective purchaser of SBS-4 or its price. However, based on current trends, value of transaction to SBS is likely to be in $200-$300 million range.

CBS CANCELS ALL DBS PLANS; COMSAT UNIT SEEN IN SERIOUS TROUBLE; GTE REPORTED CONSIDERING TAKING STAKE IN USCI

CBS has pulled out of direct broadcast satellite industry, withdrawing from negotiations with Satellite TV Corp. (STC) unit of Comsat for DBS joint venture and canceling plans to build its own DBS system, CBS announced June 26. Decision leaves STC in precarious position. Even though it has contract with RCA for satellite fleet and intends to launch "early-entry" DBS service later this year using SBS-4 satellite, it lacks resources to go into business by itself. Comsat's board may give STC 6 months to find new partner or may close it down sooner.

Meanwhile, rumors were rampant that GTE investment will bail out only operating DBS firm, United Satellite Communications (USCI). A principal investor in USCI, Francesco Galesi, confirmed to us that company needs large infusion of capital to continue operations. We gathered from our conversation with him that deal between 2 companies may exist in principal if not in detail. USCI spokeswoman Edina Gillmore said USCI won't confirm or deny that company is having financial negotiations with anyone. GTE officials we contacted said they knew nothing about matter.

Named by sources as possible replacement for CBS in STC venture was Purchase, N.Y.-based publishing firm R.H. Donnelly. Donnelly, owned by Dun & Bradstreet, is largest publisher of yellow-page directories in U.S. Neither Dun & Bradstreet nor STC would confirm possible involvement. STC and CBS also had talked to Gulf & Western's Paramount Studios about partnership involvement in DBS. If STC is closed down, damage to Comsat would be considerable, with writedown of investment costs expected to exceed $100 million. Withdrawal also would put Comsat's management team in tenuous position. Comsat Chmn. Joseph Charyk & Pres. Irving Goldstein both have been deeply involved in DBS project.

Terse CBS statement said it wouldn't execute FCC construction permit for DBS system, would end discussions for partnership and discontinue planning for entry into field. CBS cited "open questions and risks involved" as reasons for pullout. CBS spokesman George Schweitzer said company wouldn't release details behind decision following "exhaustive investigation," added that findings are considered proprietary. CBS will continue to study possibility of later entry into DBS, formal statement said.

James Rosenfield, CBS Bcstg. Group senior exec. vp, said: "We believe that DBS can provide new and diverse types of services to the public, especially in the area of high-definition TV. CBS intends to continue its efforts to stimulate the development of HDTV. But some open questions and the risks involved in this new and challenging DBS business led us to conclude not to enter this business by the FCC's due diligence deadline of July 17... "

CBS had been eyeing prospect of DBS partnership with Comsat since Dec. 1983 but never committed itself to go ahead with plans. Many in industry speculated that move to negotiate, if not sincere, at least would be best way to explore risks and benefits of venture. STC has said all along that it wanted partner to share risks and may just have been waiting at altar for CBS until another suitor could be found. It's been long wait -- STC had said in initial announcement of service that it expected to name partner by end of 1983.

Comsat wouldn't confirm or deny rumors about possible Donnelly partnership, issued this statement: "We are disappointed with CBS's recent decision not to pursue for the present the DBS business. We at Comsat believe that a sizeable business opportunity exists in this area with the right combination of skills, service offerings and partners. We are continuing to evaluate in detail the many facets of [DBS], the timely and efficient integration of which is essential to the full commercial potential of this business. At the same time, we continue to explore partnership arrangements with other companies whose complementary skills, experience and resources can provide the foundation for a successful and profitable business."

Sources told us only last month that USCI was running out of operating capital and company was rumored to be having problems with exclusive installer RCA Service. GTE's name came up then as potential "angel" along with that of GE. GE still may be in running, sources told us late last week. GTE has hopes of distributing USCI on its forthcoming GStar satellite system. USCI's financial woes may have one of 2 effects on DBS marketplace that is struggling for foothold in competition with VCRs and low-power DBS: (1) Sign that USCI can't go it alone doesn't encourage many in field but at same time venture is attractive enough to major carriers to elicit interest. (2) Low-power "quasi-DBS" alternative may prove more attractive to investors in short run than even more highly capital-intensive DBS.

Less formidable potential competitors have balked at DBS price tag. Of 8 companies that jockeyed for slots in first round of DBS filings only last year only one -- STC -- has met due diligence requirements. USSB announced only last week its plan to pay RCA Astro Electronics $160 million-plus for its 2 DBS birds-- commitment that is expected to win FCC approval in coming weeks. Deadline to show due diligence is July 17. USSB, Dominion Satellite and DBS Corp. all have made claims with Commission of having met these requirements, but of these only USSB offers substantial broadcasting experience needed to make new medium a go, say many in industry. USSB Pres. Stanley Hubbard has said many times that nascent industry needed support of broadcasters to become viable medium.

July 9, 1984

SPACE EXPERTS LOOK BEYOND COMMUNICATIONS SATELLITES FOR SPACE PROFITS

Making money in space was focus during much of Zurich Space Technology Conference June 19-21, although only industry where much money has been made so far -- communications satellites -- played 2nd fiddle to new ideas for space industrialization.

Conference was sponsored by Swiss-American Chamber of Commerce and American Embassy in Bern. More than 200 attended, many from U.S.

Communications satellites received some attention at conference. Space investment presentation by Wolfgang Demish, aerospace analyst for First Boston Corp., was bullish on satellites: "Communications, navigation and observation activities are the simplest and cheapest means to take commercial advantage of space." Today, communications satellite industry offers more than 1,000 transponders, with $10 billion value at current market of $10 million per transponder, he added.

Demish predicted that "small, cheap ground stations" and DBS birds "will transform the communications structure of corporations... Customized networks for individual users become an attractive proposition with such satellites and are already proliferating in the U.S." He also was enthusiastic about market potential for "truly small, portable terminals in a 2-way hookup," for example satellite telephones. First Boston represents Geostar, company that is forerunner of such a business. Geostar hopes to develop civil navigation satellite that will provide terminal position location within 10 meters. Terminal cost will be low, less than $500, plus "modest monthly charge" for use, he said. Geostar will be able to transmit short messages in addition to providing navigation aid. Demish said: "Although the current generation of spacecraft will only handle data, not voice, communications from the pocket-size terminals already envisioned, there is no serious technical obstacle to such a capability... These satellite phones will make up a substantial market, but are in fact only another step on the road toward fuller utilization of the inherent capability of communications satellites."

Growth, growth & more growth in satellite transponder demand is foreseen by Ford Aerospace, which hopes to orbit large 48-transponder hybrid satellites later in decade. Ken Rose, Ford Aerospace official, told conference that Ford demand projections show number of in-orbit transponders will grow to almost 7,000 by year 2000. Projections were based on findings of Working Group (WGA-1) of FCC Advisory Committee on Space WARC-'85 and other data.

Rose said trend will be toward more multiband satellites that provide multiple services, rather than clusters of smaller single-band satellites in one orbit slot. He cited Insat, Arabsat, Fordsat, Advanced Satcoms as examples of increasingly popular multiband or multisatellite designs.

Other satellite news at conference: Satellite TV Corp. officially has changed DBS plan to co-locate first 2 satellites at 101 degrees west to provide 6 channels to eastern half of U.S., said RCA official John Clark. Previous plan was to locate satellites at 101 & 148 degrees west to supply 3 channels nationwide. RCA, contractor for STC's birds, will wait until last minute to select traveling wave tube amplifier supplier, he said. RCA has ordered high-power (200 watt) TWTAs from 2 European firms, AEG-Telefunken and Thomson-CSF. Thomson 100-watt TWTAs were on Japanese DBS satellite, Yuri-2A, that was launched in Feb. Within 3 months, 2 of 3 transponders on Japanese bird failed, with problem tied to TWTAs.

Japanese failure may have sparked concern at RCA over much higher powered Satellite TV's TWTAs, although Clark didn't mention this. On TWTA qualification, he said: "Engineering models of the tubes have already passed greater than 5 years of simulated eclipse operation with no detected degradation in performance or faults due to the large thermal stresses imposed by this environment and operating procedure." Test program is aimed at simulating 10 years of eclipse cycling operations.

NASA is funding 2 experimental search & rescue (SAR) transponders that will fly on geostationary satellites, GOES-G & -H, said Richard Keating, National Oceanic & Atmospheric Administration external relations official. Geostationary experiment will supplement U.S. and Soviet polar-orbiting SARSats. If experiment is success, NOAA will fly SAR transponders on GOES-Next & polar-orbiting NOAA-Next satellites in 1990s.

U.S. Fixed Satellite Service Demand 1985-2000

Year:	1985	1990	1995	2000
Equivalent 36 MHz transponders	476	1172	1848	2785

U.S. Direct Broadcast Satellite Service Demand 1985-2000

Year:	1985-86	1990-93	2000
Standard TV requirements	25-32	25-85	31-128
High-Definition TV	0	6-8	6-36
Other related services	1	16	26
Public service requirements	4-5	4-12	5-20
Total requirements	30-38	51-121	68-210

Non-U.S. Fixed Satellite Service Demand 1985-2000

Year:	1985	1990	1995	2000
Telephony	264	705	1113	1582
TV distribution	130	169	212	242
Total requirements	394	874	1325	1824

Non-U.S. Direct Broadcast Satellite Service Demand 1985-2000

Year:	1985-86	1990-93	2000
Equivalent DBS transponders	12	104-173	166-278

Intelsat Service Demand 1985-2000

Year:	1985	1990	1995	2000
Voice traffic	89	169	312	596
Data traffic	8	12	17	24
TV transmission	11	24	38	62
Total requirements	108	205	367	682

FSS Requirement Projection

Year:	1985	1990	1995	2000
U.S.	476	1172	1848	2785
Non-U.S.	394	874	1325	1824
Intelsat	108	205	367	682
Total	978	2251	3540	5291
Capacity required to sustain total	1173	2701	4248	6349

BSS Requirement Projection

Year:	1985-86	1990-93	2000
U.S.	36-46	51-121	68-210
Non-U.S.	12	104-173	166-278
Total	43-58	155-294	234-488

RCA AND HUGHES CONTEND FOR LUXEMBOURG DBS CONTRACT

Coronet S.A. decision on spacecraft contractor for Luxembourg GDL-Coronet direct broadcast satellite is near, with 2 buses -- RCA 4000 and Hughes HS-393 -- competing, according to Theo Pirard of Space Information Center in Belgium. RCA 4000 apparently was favored because of price and ability to be launched on Ariane 3 rocket. Meeting between RCA and Coronet officials in Luxembourg July 2 that could have led to final decision on bus was postponed indefinitely, with no reason given for delay.

Coronet has $10 million in financing so far, primarily from European investors. Coronet is concentrating now on finding transponder users. Company officials decided June 27 to mandate that 50% of spacecraft payload be supplied by European firms. AEG-Telefunken will supply 24 50-watt traveling wave tube amplifiers (TWTAs) for each satellite, said Mario Hirsch, Coronet spokesman.

Coronet has reserved launch space for first bird on both shuttle in Sept.-Oct. 1986 and Ariane in Aug. 1986. Discussions have been held with 2 companies -- Philips and Thomson -- that are considered "serious candidates" to build 1-meter TV receive-only earth stations.

British Aerospace's bid to build DBS fleet for USSB wasn't 40% more than winning bid from RCA Astro, as we reported, according to Paul Heinerscheid, USSB dir. of technical operations. He wouldn't specify price USSB will pay to RCA or price sought by BAe. Informed sources repeated last week that BAe's bid was very substantially higher than RCA's.

FCC last week granted Satellite Business Systems temporary authority to move its satellite at 89 degrees west to 101 west to provide services to Satellite TV. STC will use slot temporarily until it can launch its own DBS satellite to that location. Order is due out today (July 9).

RCA PROJECTS SLOWER DBS GROWTH; WESTERN UNION PULLS OUT

RCA Americom has scaled back its plans for DBS in keeping with what it expects will be slower growth in market. Western Union took look at same market and decided to bail out completely. Together they are 2nd & 3rd major players to revamp their strategies in face of nascent industry's awesome capital costs and uncertain customer base. CBS had earlier announced it didn't intend to pursue joint effort with Satellite TV Corp.

RCA plans several revisions to its proposed system, told FCC that changes will cut company's costs by more than $300 million, nearly halving Americom's expenses in launching what it considers adequate system for meeting needs of 1990s. But change with most significant regulatory impact to company is decision to delay its entry into market by more than one year. First satellite originally was scheduled for launch in 1988, will be held until 4th quarter of 1989. Americom said its decision to wait a little longer isn't hedge on its commitment to DBS, just reflects its projections for growth: "Our studies indicate that by 1991 the number of DBS subscribers will approach 2.5 million." But delay nullifies RCA's authorization in first round and its prospects for reauthorization by Commission are unclear. Its filing may go to end of line in 2nd round, or might even have to wait until subsequent round, FCC source said.

Competition is thinning out, so regulatory delay may fit RCA's market strategy like a glove. Assuming reauthorization, company now plans 2-satellite, 32-transponder system instead of one with 4 satellites, 24 transponders. Transponder expansion with reduced number of in-orbit satellites is made possible by lowering power levels of traveling wave tube amplifiers (TWTAs). Instead of high-power 230-watt TWTAs, RCA will use 100-watt variety, saving programmers -- RCA's potential customers -- significant sums. Total space segment cost to RCA, originally set at $677.5 million, will be cut $308 million to $369.5 million.

RCA's FCC filing said: "It is now clear that it will be possible to serve the DBS market as we see this market developing with a lower powered and therefore less costly satellite than originally planned." Power reduction "has for the most part been made possible by current and anticipated improvements in earth station design and performance."

Other changes: (1) 4 in-orbit satellites would have had 1/4 CONUS coverage each; 2 satellites planned will beam 1/2 CONUS each. (2) Instead of having in-orbit and ground spares, RCA will have only one ground spare. Traffic on 2 satellites will be divided equally between protected and preemptible and each satellite will be able to provide spare protection for other.

Western Union's withdrawal didn't come as big surprise to any in industry. As one informed source put it: "The question was always who would stay in the game, not how many would bail out." Another insider said: "Western Union has always been a bit player... Their interest was more technical than [in the] programming."

Company's statement on withdrawal reflected that emphasis. James Ragan, vp-Communications Systems Group, said: "DBS is a programmer's business. We have long served as a satellite carrier to the entertainment market but we are not directly in the entertainment business. Our strength is as a supplier of end-to-end communications services." WU left door open to possible entry in future and said it "will continue to monitor market conditions, including the possible interest by potential DBS programmers" in services company might be able to provide.

Company has expertise not only in satellite hardware but in ground equipment, and WU had been considering using its services division to install & repair equipment. Ragan said industry has been "slow to gel" but may avail itself of WU's technical experience "when the time is ripe." After all, he added: "How many people had ever heard of DBS or high-definition television 2 years ago?"

Exit of RCA and WU leaves only STC and U.S. Satellite Bestg. as confirmed entrants, and STC's future still hangs in balance. Comsat board meets July 20, will decide then whether to allow STC more time to come up with monied partner to share risks. Insiders tell us that STC may have announcement regarding such partner in coming weeks (this rumor has been around many, many times before, however, and its energetic encouragement by STC officials can hardly be deemed surprising). We also hear that company has talked merger possibilities with other DBS applicants such as Dominion Satellite and early-entrant DBS firm United Satellite Communications. USSB last week received final authorization for its system from FCC (2nd such after Comsat), subject to submission of tracking, telemetry and command functions.

Both Dominion and DBS Corp. claim to have made showings of "due diligence" in proceeding with their systems. Only first-round applicant that hasn't made any showing or filed withdrawal is Graphic Scanning. Md.-based company also is said to be on verge of announcement concerning financing arrangements.

July 23, 1984

STC TELLS FCC IT WANTS TO EXPAND DBS ENTRY PLANS FOR COAST-TO-COAST COVERAGE

At time when other satellite companies are pulling out of DBS, Satellite TV Corp. is proposing to expand its coverage when it launches service in 1986. STC last week asked FCC for "minor" modifications to its authorization to allow it to launch DBS service from coast to coast instead of in eastern half of U.S. as originally planned. Though coverage will be expanded, technical modifications planned will effectively cut STC's costs in half. Pressed by parent Comsat to come up with monied partner to share risk of $1 billion venture, STC had to provide some way of cutting costs while at same time demonstrating its strong commitment to DBS, sources told us.

STC now proposes to offer 6 channels of DBS to entire U.S. from single orbital slot, 110 degrees west. Although Regional Administrative Radio Conference (RARC-83) designated slot for DBS coverage of western U.S., STC told Commission that plan is in keeping with FCC authorization of Dominion Satellite's plan to use a western slot (119 degrees west) for eastern coverage. Favorable FCC decision would place STC at what has become "place to be" for DBS service -- U.S. Satellite Bestg. also has asked to be located at 110 degrees west.

Requested modification would make service "considerably less costly" for STC and ultimately for its viewers, filing said. We're told system costs would now be around $500 million. STC has been modifying 2 satellites to offer eastern U.S. coverage, would use same 2 birds for both eastern and western coverage (each beaming full CONUS simultaneously). STC proposal is implicit affirmation of claim by others in industry that lower powered birds can be used to beam signals to smaller dishes without significant loss of reception quality.

In earlier filing for modification, STC asked permission to use 101 degree slot to locate 2 satellites for 1/2-CONUS coverage of east. STC said then that satellites it's building would fit that scheme because "by late 1983 [when so-called high-power system would go into effect], home receiver technology will have progressed to the point where, without changing satellite power, half-CONUS service could be achieved." Since then, "both technology and STC's planning have continued to advance." STC said it has determined that its multiplexed analog component signal "can deliver high-quality TV even when the satellite beam is spread to cover CONUS." Most users still would be able to receive signal with antennas no larger than .75m, company said.

Meanwhile, Graphic Scanning, last of original group of DBS applicants to make its plan known to Commission, has informed FCC of its failure to reach contract agreement with satellite manufacturer RCA Astro. Graphic is embroiled in dispute at Commission over plans to operate paging venture (ASD Answer Service, CC Doc. 82-587/590). Willingness to risk venture capital on DBS thus "must be tempered" by chance that ability to operate system might be

affected by outcome of ASD case, company said. Filing came in answer to Commission demand that companies show "due diligence" in going ahead with authorized systems by July 17 in order to keep their permits.

GSC lawyer Henry Solomon told us company worked until filing deadline July 17 to arrive at contractual language with RCA that would satisfactorily condition satellite contract on FCC action on ASD -- to no avail. "This isn't an indication that we're hedging our bets on DBS -- we still think DBS is a very viable medium," Solomon said. He added that Commission seemed sympathetic to Graphic Scanning situation, that company was hopeful its due diligence showing would be accepted. Filing said "GSC submits that a narrow exception to the 'no unresolved contingencies' policy enunciated by Commission would be appropriate and consistent with the public interest."

If GSC is counted out, that still leaves 3 companies that say they plan on going ahead with DBS: STC, USSB, DBS Corp. and Dominion Satellite. RCA Americom and Western Union revamped their plans recently and won't get into business right away. Dominion Satellite's plan was granted final approval by FCC last week and company was assigned 119 degrees west as location from which to operate its 2-satellite DBS system. Like STC, Dominion plans 6-channel service from single location. Channelization approved: 6, 8, 10, 12, 14, 18, 20, 22, 24, 26 and 28.

IBM & AETNA WILL BUY OUT COMSAT'S SHARE OF SBS FOR UNDISCLOSED PRICE

Comsat has decided to sell its 1/3 interest in Satellite Business Systems to partners IBM and Aetna, partly in response to pressure from stockholders to unload costly competitive venture and partly as result of decision to continue supporting another expensive venture -- its DBS company Satellite TV Corp.

Comsat said buyout was subject to negotiations and execution of a definitive agreement and to approval of FCC by year's end. Sale price wasn't disclosed but may run as high as $60 million. Initially, IBM is putting up 80% of purchase price, Aetna 20%, with latter being given 18 months to raise its share to 50%. Sale is expected to result in $15 million after-tax gain for Comsat. SBS's year-end book value to Comsat was $47 million, but Comsat losses from its partnership share in SBS have run as high as $5 million per quarter.

Reason given by Comsat Chmn.-CEO Joseph Charyk for pulling out of business is that SBS "will require substantial capital investments over a period of years." Comsat has "great confidence in the future of SBS, [but] the magnitude of these investments when viewed in the light of Comsat's financial resources and other business activities, make this an appropriate decision," he said. Withdrawal will give IBM and Aetna leeway to seek other partners "with financial resources and business interests that are compatible with the future course of SBS," Charyk said.

Comsat board met July 20, same day SBS sale was announced, but didn't set deadline for STC to come up with partner, as had been expected. Silence of parent company on issue of ultimatum is seen by most informed parties as confirmation of Comsat's commitment to DBS. DBS startup will carry pricetag of around $500 million, so informed sources speculated that company could carry only one such capital-intensive business at a time. Comsat also is taking heat from competitors such as M/A-Com that are charging that Comsat has cross-subsidized its competitive businesses by higher charges in monopoly regulated business. Rivals are pressuring FCC to make Comsat divest itself of all competitive ventures.

No changes in plans and operations will occur to SBS as result of buyout, SBS Pres. & CEO Stephen Schwartz said. SBS's net losses in 1982 totaled $123.2 million, $123.1 million in 1983, $52.6 million in first half of 1984. Net losses in first quarter were less than usual owing to $12 million obtained from Rupert Murdoch, who bought out of transponder deal as result of demise of his DBS plans.

SBS revenues have been climbing, from $57.6 million in first quarter of this year to $68.9 million in 2nd quarter, and company expects overall revenues to double from last year. Company official attributed turnaround to "continued growth in private network services and public switched services" (SBS Skyline). Schwartz, in typically optimistic vein, said: "The future holds great reward for our efforts, and we are particularly well-positioned to take advantage of the significant changes occurring in our industry."

FCC has approved Dominion Satellite's showing of "due diligence," assigned company 119 degrees west for its 2-satellite DBS system. Dominion becomes 3rd DBS firm to receive final go-ahead from Commission; others are Satellite TV Corp. and USSB. Like STC, Dominion plans 6-channel service from one location. Channelization approved: 6, 8, 10, 12, 14, 18, 20, 22, 24, 26 & 28.

July 30, 1984

APPEALS COURT RULES DBS SHOULD BE CONSIDERED 'BROADCASTING'

Any programming service that goes directly to public should be considered broadcasting, U.S. Court of Appeals, D.C., said in remanding portion of FCC's decision authorizing DBS service. Otherwise, last week's ruling that affirmed FCC's approval of new satellite service, was major victory for DBS companies, removes last regulatory obstacle to nationwide direct-to-home offering.

Court issued opinions on cases brought by U.S. Satellite Bestg. against FCC for decision to allow GTE Satellite to rent satellite space to United Satellite Communications (USCI) for DBS-type service and by NAB for review of DBS order on several grounds. With exception of broadcasting restrictions -- which Court found ought to be put into place -- Court affirmed FCC's order authorizing DBS and its okay for Satellite TV Corp. to operate DBS.

Court vacated part of DBS order that exempts "customer-programmers" of DBS common carriers from statutory requirements imposed on broadcasters. Judge Abner Mikva, writing for panel on NAB case, said: "When DBS systems transmit signals directly to homes with the intent that those signals be received by the public, such transmissions rather clearly fit the definition of broadcasting; radio communications are being disseminated with the intent that they be received by the public." Same is true even when common carrier is leasing its channels to "customer-programmer" who doesn't own any transmission facilities: "In such an arrangement, someone -- either the lessee or the satellite owner -- is broadcasting." Whether DBS system is funded by advertisers or subscribers doesn't change that fact, Court added.

FCC had made ownership touchstone of broadcasting, saying in DBS order that only DBS applicants that would retain "control over content of transmissions" would be treated as broadcasters. Court said that decision was irrational, opening up situation where "through a general system of cross-leasing, all DBS systems could therefore escape" Communications Act proscriptions on broadcasting.

FCC's Gen. Counsel Bruce Fein said ruling seriously hampered Commission's move toward deregulation of new services by tying agency to old statutory broadcasting restrictions. "The court gave us no discretion at all, or at least minimal [discretion] in the classification of new services," Fein said. He added that issue was significant enough that FCC probably will seek rehearing or appeal to Supreme Court: "It's important for us to reexamine and test these restrictions... [ruling] leaves us almost no flexibility."

Court left up to FCC's discretion which party to designate as broadcaster and didn't suggest that all uses of DBS constitute broadcasting: "Activity that would provide nongeneral-interest, point-to-point service, where the format is of interest to only a narrow class of subscribers and does not implicate the broadcasting objectives of the Act, need not be regulated as broadcasting." Commission's error on this count is "sufficiently minor in the context of the order as a whole that the rest of the order can stand," Court said. FCC's ability

to suspend multiple-channel restrictions and cross-ownership rules where DBS is concerned was thus affirmed.

But Court added caveat where ownership rules are concerned: "Diversification of media viewpoints and control remains an important component of the FCC's statutory mandate to regulate communications 'in the public interest'... For example, the absence of ownership restrictions on DBS may be particularly worrisome in those remote areas that DBS opens up for television and in which DBS may therefore be the dominant voice."

Court specifically recognized Commission's authority to approve services on experimental basis in effort to gather "important market data to be used in the completion of a regulatory framework." Approval of interim DBS services in fixed satellite band falls in this category, Court said. FCC's leeway is most extensive when dealing with new technologies unforeseen at time Communications Act was passed, but "is not boundless: The Commission has no authority to experiment with its statutory obligations." It said FCC did precisely that in exempting from Act's broadcasting restrictions the "customer-programmers" of DBS common carriers.

Court rejected claims by NAB and others that Comsat competitive venture Satellite TV Corp. should be precluded from acting as broadcaster. Neither would Comsat's DBS activities prevent it from performing its Intelsat/Inmarsat functions. Countering argument of cross-subsidization by Comsat's other operations of company's competitive ventures, Court said it sees "no basis for concluding that Comsat will be able to exact monopoly rates from its Intelsat/Inmarsat ratepayers to cover any of STC's losses." Court also rejected NAB's "localism" argument against DBS, saying: "Because DBS has the potential to yield broadcast services that significantly further the public interest," FCC was well within powers to approve nonlocalized broadcasting characteristic of DBS.

USSB in its brief on case had argued that "absurdity of calling USCI's direct-to-home television in the 11.7-12.2-GHz band a nonbroadcast service" is illustrated by FCC's handling of STC's plans. STC, when it launches early service in fixed satellite service (FSS) band, won't be regulated as broadcaster, but as soon as it goes up in BSS (DBS) band, it will. "Thus, the instant STC switches [bands]... it goes from being an unregulated customer of a common carrier to a regulated broadcaster, although to the viewer its service has not changed at all," brief said.

Question was raised whether ruling will affect other satellite-transmitted programming services. USSB lawyer Marvin Rosenberg said Court opinion didn't address issue of satellite-delivered programming redistributed later by cable or pay TV: "All the court has said is that delivery of satellite programming directly to the home is broadcasting and someone, whether the programmer or the carrier, has to be regulated as a broadcaster. It would appear the FCC would have to regulate the programmer because carriers have traditionally been exempt from that."

STC spokeswoman said ruling "removed a major impediment and reaffirms our ability to go forward."

Final report of FCC Advisory Committee on DBS Technical Standards is available from International Transcription Services, 4006 University Dr., Fairfax, Va. 22030, 703-352-2400.

August 6, 1984

EUROPEAN PRESSURE MAY DELAY LUXEMBOURG'S SATELLITE PLANS

During July, Coronet team for Luxembourg's GDL satellite project met with potential investors in system, European Space Agency, German & British PTT representatives, and French & Italian authorities -- grand tour that has convinced principles to make some major changes in plans for their system. Paul Zimmer, adviser for GDL project to Luxembourg's Prime Minister Jacques Santer, said project now would be delayed beyond 1986, might involve German & French officials more heavily in system planning.

According to Zimmer, changes aren't due to recent parliamentary elections, in which Santer replaced Pierre Werner, "father" of GDL project: "The new government of Luxembourg... supports immediate development of the GDL-Coronet system for a European satellite TV project. There is a governmental consensus to promote industry and employment through this important project." Zimmer added, however: "While we are still working with France on a joint agreement for the TDF-1 utilization, we are encountering difficulties with German and French governments pressed to react by their respective aerospace industries." Govt.'s leanings toward using U.S. satellite for service aren't "very well appreciated by satellite manufacturers in Europe," he said: "Because of these difficulties with our direct neighbors, we're evaluating two options for developing the GDL-Coronet venture."

First option Zimmer described is very close to initial plans but would require go-ahead from govt. in next few weeks. Under this option, GDL would use U.S. satellite with several European systems for payload with Ariane launch scheduled in late 1986 or more likely 1987. Option brings with it "risk of serious problems for the distribution of TV signals in Germany, France and other European countries" with cable networks that usually buy Luxembourg TVRO equipment. Cabling of Europe will be in only early stages by 1986, another factor: "GDL-Coronet promoters know that they will have losses during the first three years of the system, but they want to be the first" to offer medium-satellite services, Zimmer said.

Second option would be to delay program and use European-built satellite. This option needs intensive study by German, French, British & Italian satellite builders, would cause several months' delay. Zimmer said: "With this new option, the risk is to greatly delay the GDL-Coronet system services and allow for the entrance of competitors. The loss of our advantage will compromise the success" of the venture. But if by delaying project country could solve political problems associated with system, it might, he added.

"In Germany and in France, there is a real desire to find a joint European solution with Luxembourg," Zimmer said. Mario Hirsch, Coronet spokesman, said: "Modifying our initial plans will be the price to be paid to remove political pressures, to remove the project's blockades." Coronet promoters are considering yet a 3rd option, which would involve both U.S. and European manufacturers in first generation of GDL satellite to be ready by 1987, with later French-German-Luxembourg satellite planned for 1988-89. "Months of negotiations" lie ahead of any decision, Hirsch said.

* * * * *

Despite storm of protest that erupted over Luxembourg's proposed Coronet system, Swiss are looking at possibilities of own DBS system. Top govt. communications official told our European correspondent: "Swiss politics for mass media cannot be compared with the intent of Luxembourg in finding an economic resource in radio-TV broadcasts." Swiss govt. hasn't made decision yet on use of DBS frequencies, but 3 possibilities are being discussed: (1) No use of DBS band. (2) Implementation of national DBS project with public or private funding. (3) Participation with other European states in international DBS project. By year end, some determination will be made, we're told. Four Swiss candidates are pushing govt. to go ahead with DBS: (1) Tel-Sat, first private group in Europe to develop DBS project. (2) Teleclub S.A./Rediffusion in Zurich. (3) Universum Press in Geneva. (4) Kappeli company. Tel-Sat looks to be most interested in technology, despite advent of medium-power satellites. Tel-Sat official told us: "Tel-Sat supports DBS utilization in Europe for 3 reasons, small and low-cost TVRO terminals, fixed dish antennas to be pointed to the 19 degrees west position which will become the location for most European spacecraft, and great marketing and advertising potential with DBS reception by an immediate, large public." Tel-Sat is interested in U.S.-built PAM-D2 class spacecraft using 100-w tubes, wouldn't preclude European bird.

August 13, 1984

LIMITS TO DISH ZONING LAWS ARE TOPIC FOR FCC RULING

Comments & replies are in at FCC in matter of United Satellite Communications' (USCI) petition for declaratory ruling on power of local authorities to use zoning laws to regulate

placement of satellite earth stations, and Commission is ruminating on extent to which local authorities can restrict use of satellite-to-home technologies.

Zoning boards may be up against tidal wave in trying to regulate what has become one of fastest growing equipment crazes since CB radio -- even apart from USCI's direct broadcast or DBS service. As industry insiders point out, direct-to-home satellite TV has existed since first home TVRO and has grown to proportions where some 400,000-600,000 U.S. homes have one and total may be growing by as much as 30,000 monthly.

But dozen localities have been cited by industry association SPACE (Satellite TV Industry Assn.) as blocking homeowners seeking to install home equipment. Leading list of what has become known as "dirty dozen" localities with unusually burdensome regulations or flat-out moratoriums on dish installation by home owners is Chicago-- city whose "dish moratorium law" sparked USCI's petition. (Others are 2 in Chicago area -- Park Ridge & Skokie; 3 in N.Y.C. area -- Quogue & Sands Point, L.I., & Oakland, N.J.; 3 in Fla.--Davie, Hollywood & Lighthouse Point; 2 in Cal.-- Hillsborough & Monrovia; and Chaska, Minn.)

USCI is up against wall in Chicago, which in May 1982 passed law precluding placement of satellite receivers at residential locations unless receiver is processed & certified by city govt. as "planned development." To constitute "planned development," USCI petition said, dish needs prior approval by local commissioner of planning, city & county development, Chicago's planning commission and City Council, which has drafted 13 guidelines for suitable installation.

Approval process requires public notice & hearings lasting up to 30 days and $100 fee paid by homeowner. Petition cited comments of city councilman prior to adoption of law: "I have no quarrel with this ordinance as long as we understand what it is doing, and what it is doing is obviously protecting, giving the cable industry a voice in the future establishment of dish antennas in the city."

USCI petition said that because localities continue to enforce laws & regulations that prohibit or impose unreasonable & burdensome requirements on installation of receive-only earth stations, it's "incumbent on the Commission to affirm that its preemption [in Earth Satellite Communications Inc., Nov. 17, 1983] extends to such unreasonable restrictions on the installation of satellite ground segment and to put noncomplying localities on notice that such regulation won't be tolerated." USCI made it clear it didn't mean to suggest localities shouldn't have some say in zoning dishes, but did want Commission to preempt laws where they: (1) Lack a direct and tangible relationship to legitimate and neutral zoning or public health & safety considerations. (2) Interpose regulations that frustrate the reception of satellite-transmitted signals. (3) Are contradictory to the preeminent federal interest in establishing & fostering interstate satellite program delivery services to the public.

SPACE also filed, said it supported USCI's petition but wanted FCC to provide communities with guidance on limits to their authority to interfere with home dish ownership. It suggested: "When the community's view of what is aesthetically pleasing conflicts with an individual's right to access diverse sources of information and ideas available by satellite, the conflict should be resolved in favor of the individual." USCI's reply said petitions by SPACE and one subsequently filed by American Radio Relay League asking for ruling defining zoning limits over amateur radio facilities, shouldn't be associated with or delay Commission action on its petition. Company also said FCC can distinguish between DBS and home earth station preemption.

Notably absent from comments & replies were any from Chicago. Only negative comments came from National League of Cities, American Planning Assn., North Area Cable TV Authority of Ferguson, Mo., National Assn. of Counties & N.Y. They said that USCI's petition involves single municipality's actions and was thus too narrow to warrant federal preemption, and that to segregate regulation of satellite industry from all other commercial ventures is "unreasonable and illogical" (NAC). They also said that First Amendment argument by USCI, which claimed homeowner right to receive signals, isn't barrier to local zoning restrictions.

Among those in favor of petition: (1) Satellite TV Corp. said Commission should preempt not only intentionally discriminatory zoning but unintentional acts as well; FCC should distinguish between DBS and larger home earth station dish preemption. (2) DBS Corp. said DBS, as capital-intensive industry, is "enormous financial risk" and is dependent on ability to install facilities without burdensome interference. (3) M/A-Com said FCC needs to draw "clear bright line" to avoid costly individual litigation; size is factor and Commission should set 10 ft. and 12 ft. limits for residential and commercial stations, respectively.

Gene Jankowski, CBS Bcst. Group pres., in recent letter to group executives, explained that decision to pull out of talks with Satellite TV Corp. on possible DBS joint venture "was not based on any single, overriding negative factor, nor does it reflect an adverse view of the possibilities of DBS. It is simply the net result of a complex process of evaluation." CBS looked at dishes, audience figures and system costs, decided not to enter field for time being, letter said. Letter continued: "There were no 'write-offs' or losses connected with this action. We have been allocating engineering and development budgets over several years in connection with DBS and high-definition television (HDTV)." CBS will "continue those efforts with the hope that HDTV technology will develop here in the United States."

August 20, 1984

U.S. STUDIES NUCLEAR-POWERED SATELLITE TO BROADCAST BEHIND IRON CURTAIN

Giant nuclear-powered broadcasting satellite to beam radio programs to Soviet Union and other countries behind Iron Curtain is being considered by U.S. govt. "to meet the mission needs of the Voice of America," Satellite Week has learned. Numerous govt. officials contacted by us acknowledged that they have no idea what satellite would cost. Officials disagreed whether it could prove effective at overcoming expected Soviet jamming.

Work on project is being undertaken in response to request from William Schneider, State Dept. Under Secy. for Security Assistance, Science & Technology. Technical study is being managed by NASA with funding from U.S. Information Agency. USIA is studying international regulatory problems and developing position papers designed to secure International Telecommunication Union (ITU) approval.

Agreement between NASA & USIA, copy of which was obtained by Satellite Week, says satellite "presents some unique challenges both in technology and in cost-effectiveness that need to be addressed to determine its feasibility for international broadcasting."

Some official sources told us that use of satellite could overcome efforts of Soviets to jam broadcasts of VOA, Radio Free Europe (RFE) & Radio Liberty. If use of high frequency band is found to be feasible, listeners would need no special equipment to pick up transmissions, just standard shortwave receivers. But other officials disagreed, which suggests that there are deep divisions within govt. on feasibility or cost-effectiveness of scheme.

Board for International Bcstg. and VOA are cooperating in study of jamming & anti-jamming techniques and international broadcast satellites, according to BIB's 1984 annual report. George Jacobs, BIB technical advisor, said BIB was interested in program for possible RFE & Radio Liberty applications. But, he said, he was "pessimistic" about project.

Satellite could be "impractical for [broadcasting to] closed societies," Jacobs said, because Soviet jamming is directed at receivers. It would be difficult to jam satellite signal, but Soviets don't have to do that to jam reception, he said. Jacobs said satellite probably is "technically feasible, if money is given no consideration." NASA contractors will attempt to answer 3 questions, he said: (1) Whether satellite is technically possible. (2) Whether it's economically feasible. (3) Whether it's worthwhile compared with existing & alternative terrestrial communications methods.

Satellite could ease U.S. efforts to find new transmitter sites to broaden listening audience in Soviet Central Asia & Siberia. BIB 1984 annual report described difficulties surrounding U.S. attempts to convince other countries to host transmitter sites for VOA, RFE & Radio Liberty. VOA has complained for years about its inadequate equipment. Its main Munich studio was built by Nazis in 1942.

Preliminary definition of system has begun, using $1.5 million provided by USIA to NASA, which has contracted with TRW and Martin Marietta to study costs and specifics of satellite design. Interim reports were presented in July to NASA Lewis Research Center, which is managing studies. NASA has selected 4 concepts for conclusive study, Lewis official said. Contractors will hold 2nd briefing in Oct., and final report will be published in March 1985, Lewis official told us. Satellite design, fabrication & testing could start in FY 1987, according to USIA-NASA agreement. Satellite could be ready for launch in 1993, agreement said. Experiments to test various elements of system could begin earlier, using NASA's space shuttle, source said.

Radio satellite would break new technological ground. One controversial aspect is likely to be possibility of nuclear power to generate large amounts of power required. According to single paragraph in NASA's 1985 long range program plan, huge satellite could require nuclear generating unit providing 100-kw of electricity as well as conventional solar cell panels to produce another 12.5-kw.

Martin Marietta "took hard look" at using technology from SP-100 program, tri-agency effort involving Defense Dept, NASA & Energy Dept. to ground test compact nuclear power unit for use in space. But, Lewis official said, Martin Marietta decided to proceed with design using solar array only because SP-100 power unit would be heavy and difficult to mount on satellite.

One NASA official said report that bird would need nuclear power was "trash," said he couldn't explain why nuclear power possibility had been mentioned in NASA's own report on program. NASA is developing large solar arrays for space station project that could be used for high-powered broadcast satellite, another NASA official said. Other govt. officials wouldn't talk on record about nuclear aspect, but one said privately that satellite would require nuclear power.

However it might be powered, it's evident from NASA report that radio satellite could become one of largest objects in geostationary orbit. To focus radio energy on Soviet bloc countries, satellite is likely to employ enormous antenna, possibly 1/4-mile in diameter. If congressional approval to build system is secured, satellite could be launched by 1993, according to USIA-NASA memorandum.

Key to satellite's mission, according to NASA, would be very high-power, high-efficiency transmitters providing 15-30 kw of broadcast power at 26 MHz; large antennas, including reflectors or arrays of 300-500m diameter; novel control systems for large space structures. Launchers able to deliver 10,000 kg or more to geostationary orbit would be needed.

Although USIA-NASA agreement was signed in March 1983, NASA & USIA haven't publicized effort. Program, while not classified, is considered highly sensitive. Satellite Week obtained copy of USIA-NASA agreement after brief mention of project surfaced in NASA's annual report to Congress. We're told that USIA tried to classify program, but NASA wanted it to remain public.

Radio satellite may further exacerbate U.S.-Soviet relations at time when tensions already are high. Some officials believe that Soviets could be tempted to attack any broadcasting satellite, which because of its size could be easy target. Soviets would almost certainly lodge strong protests against any satellite intended to beam programs into its sphere of influence.

USIA-NASA agreement gives USIA responsibility for "diplomatic, international & political initiatives necessary to operate an international" broadcast satellite. USIA wants approval to

operate in 15-26 MHz, 60-80 MHz, 0.5-2.0 MHz & 12 GHz. Only band in which conventional shortwave receivers now operate is 15-26 MHz. New generation of receivers would be necessary in other bands.

Allocation of bandwidth for service would be subject for Jan. 1987 World Administrative Radio Conference on high-frequency bands, sponsored by ITU. If U.S. decides to push satellite broadcasting proposal, it undoubtedly would cause political furor with battle lines drawn between western nations favoring free flow of information and those, including Soviet Union, which assert right to shield their people from unwanted broadcasts. Radio satellite also could be topic at 1985 Space WARC, at which developing nations are likely to assert demands for greater access to orbital arc and space-communication frequencies, while seeking to restrict use of space by developed countries.

USIA program to update international sound broadcast facilities and coverage areas has brought increasing attention on use of satellites. In July 1981, National Research Council Space Applications Board hosted meeting of govt. & industry officials to discuss future use of satellites for international audio broadcasting. Group's consensus was that high frequency broadcasting from satellites might be feasible.

In response to NRC/SAB conclusions and congressional requests, State Dept. Interagency Group on Communications & Information policy established task force to dig deeper into technical, cost, regulatory & political feasibility questions. Task force included representatives from USIA, BIB, DoD, FCC, NASA, National Security Council & NTIA. In Nov. 1982, task force determined that satellite system was technically feasible.

FCC hasn't been involved in project since task force, FCC science advisor Anthony Rutkowski said. FCC hasn't taken position on program nor on nuclear power satellites because issues aren't domestic or private sector concerns, he said.

Agreement lists project milestones: (1) FY '84 work will provide technical, cost, political & regulatory information on which to base decision to proceed. (2) If 1984 work is positive, detailed project definition studies could begin in FY '86. (3) System design, fabrication and test phase could begin in FY '87, leading to launch in "about 1993." (4) Alternative plan could be adopted for more studies before proceeding if FY '84 work justifies it, but more information is needed for final decision. Alternative plan could include flight experiments to develop & test technology; "more in-depth studies of selected alternative concepts; additional regulatory, diplomatic or international political actions."

Included in USIA responsibilities in agreement was $75,000 study of "future receiver population at the potential DBS frequencies, which are expected to become available to the target audience up to the year 2000." NASA agreed to direct NTIA's Institute for Telecommunications Sciences to assess "ionospheric propagation factors affecting the service quality and the probability of interference," with $100,000 allocated for study.

USIA & NASA agreed to: (1) Prepare final report of technical feasibility and cost effectiveness of direct broadcast sound satellite. (2) Develop follow-on activity plan. (3) Adjust funding allocation & schedule in "definitization" documents.

HBO SEES TROUBLES WITH SCRAMBLED DBS BUT REMAINS COMMITTED

NEW YORK -- HBO remains committed to launching scrambled DBS service next year and has "plunked down the money," Senior Vp Thomas Oliver emphasized during Cable TV Administration & Mktg. Society (CTAM) panel on competing technologies here Aug. 14. But many in audience left wondering whether HBO will really get into DBS based on Oliver's sobering assessment of chancy economics of broadcasting by satellite.

Out of 800,000 installed TVROs, only 1/3 of backyard dish owners say they would pay for

decoder & monthly service, Oliver said in citing HBO survey. Another 1/3 said they might pay but last 1/3 "will be damned if they'll pay for what they've been getting free," he said.

Dish compatibility also is problem, Oliver said. He contended that many already installed aren't compatible with HBO's chosen decoder equipment, but didn't give figures. These are dish owners who may be lost as potential subscribers, he said: "We need to work with dish manufacturers to standardize."

Even given problems, "I look forward to the DBS business and hope to come here soon as a DBS programmer," Oliver told audience. "If the economics can be put together right," HBO will be in DBS business next year, he said.

While cable industry may not have large role in DBS ("How can we make money off TVRO owners who're located way out in the boonies?" one operator asked panel), it can & should embrace other competing technologies such as Dow Jones 2-way interactive News/Retrieval Service, said panelist Skip Grossman, Dow Jones dir. of business development information services. "I can make money without cable," he warned, because Dow Jones wire is available over phone lines. But he said company prefers cable delivery because of lower costs and higher data transmission speed.

Huge subscriber base isn't necessary for economics of data transmission to be right, Grossman said. "More than half the [cable] systems we're on have less than 8,000 homes," he said. Cablers and providers of interactive services together should "shoulder the burden" of bringing competing technologies to cable, he urged.

British Independent TV News (ITN) said it intends to bid for slot on Britain's DBS bird, scheduled around 1987. ITN offering would be called World News Channel, according to ITN editor David Nicholas who has eye on CNN-styled international service. DBS project is domestic, but service could be relayed in Europe via cable if complex copyright & distribution agreements can be achieved. Meanwhile, U.K. has named 5 companies as possible partners with BBC & ITV in launching DBS bird. Those 2 have been feuding for some time over respective responsibilities in funding system, already delayed by wrangling. Now competing to help finance $93.8 million of $470 million project: Thorn EMI, Granada TV Rentals, S. Pearson, Virgin and Consolidated Satellite Bcstg. Consolidated has links to Radio-Tele Luxembourg. All 5 may divide some 20% of project, with ITV taking 30%, BBC 50%. Project still faces controversy over competition between Britsat and Unisat to build satellite.

Comsat and Satellite TV Corp. officials continue "no comment" response to reports that Prudential Insurance has made overtures about combining United Satellite Communications' (USCI) low-power DBS venture with STC's operation. Prudential, 51.9% owner of USCI, also is keeping mum but STC source said offer has been "talked about" for some time.

August 27, 1984

DOMINION SEEKS TO SERVE EVANGELICALS WITH DBS OFFERING

Robert Johnson, pres. of Dominion Video Satellite, believes that in "mature" years of DBS operation, company will be able to place 150,000 dishes monthly for its service. Johnson makes that prediction, not because his planned service will have such broad appeal to U.S. viewing public, but because it will target a portion of audience that he says is "underserved."

"I knew all along that USCI [United Satellite Communications--low-power DBS company] would fail because the people in this country aren't starving for the kind of programming they're offering, particularly in the markets they're going after," Johnson said. Dominion's target audience is 8-12 million evangelical Christians who Johnson believes live in U.S. Pollster George Gallup estimates this total at 25-30 million, but Johnson said his own number is more realistic.

Johnson contends this group is underserved by current religious & family programming, despite plethora of TV preachers and religious shows on television & cable. As justification, he said: "Religious broadcasting rarely is available in prime time when the viewer will find it convenient to watch." Also, most religious TV broadcasts go into communities where only "a pocket" of evangelicals actually are interested. "The beauty of DBS is that, from the satellite, we can aggregate those pockets into a national network," Johnson said.

Dominion already has lot riding on additional assumption that Johnson's particular mix of family-oriented and religious programming will be attractive enough to encourage several million evangelicals to pay $600 one-time fee to obtain equipment and receive service. Two satellites, which Dominion has just contracted with Hughes Aircraft to build, will be located at 119 degrees west. That's one of few slots another major player in field, Satellite TV Corp., won't be able to use because of configuration of transmit antennas on satellite already through design phase at RCA Astro. Co-location with STC has been goal of those serious about DBS, but Johnson doesn't consider it problem; he said that for $75, his company's dish could be equipped with steering mechanism. For another $125-$150, customer could buy 2nd receiver should STC's electronics not be compatible with Dominion's, Johnson said.

Issue of compatibility of equipment isn't crucial to venture's success but is a concern, he said. Dominion has offers on table from Alcoa/NEC (Ancom) to build aluminum dish; Owens Corning, which has offered fiberglass dish; and GE, which is selling newly developed plastic unit. All dishes are compatible with each other; receivers may be built by Panasonic, Ancom, Sony or Channel Master, Johnson said. Ancom may have lead in competition because, Johnson said, there have been talks with Comsat to purchase all equipment from same source to save money with volume orders. Whatever equipment manufacturers and dealers Dominion contracts with will have to keep cost to customer below $600 limit, he added. Decision will be reached on equipment makers by end of Sept., he said.

Programming offered will consist of one religious channel, one educational (tuition pay-per-view direct from university to home) channel, one family programming channel (largely programmed by Christian Bcstg. Network), one all-news network (involving joint venture between Dominion and others), 5th channel that may be taken over by Southern Baptist Convention's ACTS Network (subject to finalization of deal) and 6th channel programmed exclusively by Dominion designed to reach specific audience with sports, culture and entertainment programming. Dominion also has asked FCC for 2 additional channels -- one to convert a channel into high-definition TV and another perhaps for pay movies. In this vein, Dominion has talked to Disney Channel: "There's no commitment [from Disney] but the response has been very positive," Johnson said.

Dominion remains committed to high power (home earth stations could be as small as 0.6m in diameter) and has signed agreement with Hughes to build satellites. Two HS-394s will cost Dominion $250 million, including launch and insurance. Hughes describes birds as having "novel design that combines the best features from the existing technologies of spin-stabilized satellites and body-stabilized satellites." Flat solar arrays extend 110 ft., will provide 5,000 watts to 8-channel communications payload. TWTAs have 230 watts each, will provide minimum signal strength of 54 dBW. Satellites are scheduled for delivery in May and Sept. 1987 with tentative launches on space shuttle in Aug. and Dec.

Dominion is counting on endorsement of 24 religious leaders, mostly TV preachers, who will participate in programming religious channel. Dominion also will launch nationwide ad campaign in fall to heighten awareness of DBS and Dominion. Religious channel will be operated by nonprofit corporation, so fund-raising appeals may be used to keep it going, Johnson said. Otherwise, neither religious broadcasters, leaders themselves or evangelicals will be asked for financing, he insisted. Money has been raised by private offering which may continue, he added. "Novel" financing arrangement keyed to marketing of antennas is behind efforts, Johnson said, but he wouldn't be more specific. Funding will be "a continual financial challenge," he said, "but I assure you we wouldn't have signed a contract [with Hughes] unless we had confidence we could make a go of it."

USCI & COMSAT REPORTED NEAR DBS MERGER

End is near for United Satellite Communications (USCI) as independent service, according to persons with close familiarity with USCI's internal condition. Barring last-minute hitches, USCI will be merged into Comsat to become part of latter's Satellite TV Corp. (STC), they told us. Deal is expected to be announced this week, with USCI backers Prudential & General Instrument partners in new -- and newly named -- venture. STC officials declined to comment.

Prudential is key to financing needed by STC to launch own operation, now priced at close to $500 million. GI's role remains that of providing earth stations, but company also could throw monkeywrench into deal by exercising blocking rights to prevent marriage, according to one source. That's considered unlikely, however, since GI would have nothing to gain. Executive close to USCI told us service won't last much longer on its own, in fact hasn't done any active marketing in last 3 months. It's thought to have about 10,000 subscribers, although some estimates put figure as low as 2,000. Just how much of USCI programming and which USCI executives -- if any -- will survive merger aren't known.

If merger happens, it would be ironic, because STC & USCI often have sparred. STC tried to convince FCC not to permit USCI to use low-powered satellite to launch its early-entry DBS service; USCI officials often have sniped at Comsat, accusing it of putting too much faith in high-power approach to DBS.

Despite fits & starts, DBS is a business "getting ready to happen," U.S. Satellite Bcstg. Exec. Vp-COO Robert Fountain told TV Academy lunch in N.Y. last week. But it's "not for the fainthearted," he said. "It's for those with the financial resources and spiritual & physical resources to stay in there for the long road."

As for financing, Fountain said USSB, which is owned by Hubbard Bcstg., is seeing interest from groups in Japan, Europe & Saudi Arabia in investing in USSB, didn't name any companies. Only drawback is that FCC won't allow more than 20% investment by foreign parties, he said. USSB continues to talk with potential partners, hoping for companies with both money & expertise to bring to venture.

Aside from PR black eye DBS gets when participants drop out, Fountain indicated it will be better for industry if there are several service alternatives. "We would ideally like to see all 32 channels" that can be programmed offered to consumers, he said. With current 3 entrants -- 2 others are Satellite TV Corp. & Dominion Video Satellite -- 18 channels will be programmed, possibly 20, if FCC allows STV & USSB to expand. USSB will survive with 18-20 channels going to consumers because it isn't under same financial pressures as other companies, Fountain said. He added that 2nd-round DBS entrants will later add more channels.

Other critical need is for DBS industry to ensure decoder box will "receive scrambled programming from any DBS operator in the country," he said.

Comsat General has signed consulting contract with China Bcstg. Satellite Corp. (CBSC) of People's Republic of China. Under contract, Comsat General will assist CBSC in obtaining satellite & ground control network equipment for DBS system to distribute TV & audio services. Preparation of RFP, proposal evaluations and consulting support are included in Comsat's tasks.

September 10, 1984

HOME SATELLITE SHOW IS BIG, BUT SOME WONDER AT INDUSTRY'S COURSE

NASHVILLE -- Is burgeoning home satellite systems business in search of its own shakeout? Many marketers think so, even though by all outward signs at Society for Private & Commercial Earth Stations/Satellite TV Technology International (SPACE/STTI) show here, industry is doing quite well. Show, drawing record 8,500-plus registrants in 3-day run that started Labor Day, is infant industry's largest, and both pride & growing pains were in evidence.

Amplica Mktg. & Sales Dir. Asa Baird said his informal measure confirms success of meeting -- expensive lighted signs on exhibit floor now outnumber hand-lettered paper ones.

But growth of show and excitement about industry mask problems, according to participants. One criticized "garbage" that some small-scale manufacturers were showing on exhibit floor. He said business is attracting many who think they'll make quick buck selling TV receive-only (TVRO) systems. Some marketing approaches in backyard dish business resemble pyramid sales program, he added.

Another distributor said small minority of retailers & wholesalers will survive as industry matures, and same will hold true for many manufacturers, once large Japanese electronic firms such as Sony and Mitsubishi make their move into business. Distributor also lamented industry's dismally high return rate for manufactured equipment. Naturally, all those we talked with say it's those other guys who'll be dropping out.

Marketing Emphasized

During opening "industry update" Sept. 3, Chaparral Communications Pres. Taylor Howard said entry of Japanese into business shouldn't cause concern because they'll still need people to sell & install systems. "If you're in the business now and understand it, you're going to be in it for a long time," he said. He predicted 85 million TV households eventually will have some form of satellite TV, either from cable or satellite dish in backyard.

Problem of high out-of-box failure rate was addressed by a panel. Mike Render of Lowrance Electronics said manufacturers should have toll-free phone numbers to handle such problems. However, Amplica's Baird said no matter what precautions are taken, "you still are going to pull a product out of a box" and it's not going to work. Solution, he said, is for dealers to sell one-brand satellite receiving systems backed by one manufacturer, rather than packages of separate components.

Amplica, owned by Comsat, has signed $25 million deal with Curtis Mathes, which will sell systems through its 700 owned & franchised retail stores. He said piecemeal approach that forces consumer to make decision on dish, receiver, down converter & other components is akin to making refrigerator customer pick out freezer, compressor & box. Baird said industry will sell 120,000 systems in next 4 months, adding to installed total of about 500,000. He expects 600,000 -- or 50,000 per month -- to be installed in 1985.

Show's registration of more than 8,500 was well up from 6,000 that attended event in Nashville last year. Heavy turnout was confirmed first day of show when organizers gave out last of 9,000 programs. Exhibitors numbered about 300, with more than 325 dishes -- nearly double number at last show -- set up in Opryland Hotel courtyard.

Signal Scrambling: Reactions

HBO's scrambling plans drew mixed reaction from satellite TV receive-only (TVRO) marketers & manufacturers here at convention of home earth station proponents. Network Distribution Dir. Ken Kinderman made it clear that HBO hasn't yet decided whether it will offer descramblers to home dish owners. And when & if it does, conferees seemed concerned HBO would favor cable affiliates over TVRO retailers when it decides who will provide hardware & service.

When home satellite system retailer sells equipment to consumers, part of promise in backyard dish is getting HBO & other premium services free. HBO plan to scramble signal starting in first quarter next year will change those economics. Concern seems to be that HBO will scramble to protect signal, then refuse to sell service to consumers. HBO efforts to negotiate with Hollywood for DBS rights would indicate company is serious about marketing service. However, none of company officials who have spoken in last few weeks has given conclusive word that HBO will offer service to dish owners.

While there may be million dishes installed by next year, Kinderman said, some major business issues "need to be solved before [selling service to dish owners] looks attractive enough for us to launch on a national scale." HBO is "very skeptical" about demand for service among owners who might point their dishes elsewhere or pay $2 to rent videocassette.

Compared with 13.5 million cable subscribers to HBO, volume in TVRO is low, he explained -- "so when you look at a potential market of one million homes at the very most by the end of 1984, the issue of whether it is worth doing the business at all has to be scrutinized." Advantage, he said, is that company can reach potential subs "in a way not possible before."

M/A-Com scrambling equipment already has been selected for HBO & Cinemax. Real hurdle is distribution of hardware, then billing & collecting for movie service. Kinderman asked if retailers & distributors would be willing to serve cable affiliates as distribution point for $300 home descrambler. Most hands in room went up and Kinderman said "it looks like we have one good channel for distribution." Member of audience asked if cable operators would be willing to drive possible 50-100 miles to service dish owners. Kinderman defended cable operators, suggested TVRO retailers could work with operators in joint ventures. Such arrangement probably would have retailer selling & installing hardware, cable company handling billing & servicing.

Kinderman alluded to service problems in TVRO business, hinting industry must clean up its act if it wants to sell programming services. When industry was getting started, selling dish was enough, he said. "But it's clear today that if there is to be a consumer business, the successful players will be those who recognize that there must be customer follow-up and responsive service," he said. Bottom line on scrambling: "HBO's message to you is 'stay tuned.'"

Most in industry agree that before HBO can market service to TVRO owners, most other premium service programmers, particularly Showtime/Movie Channel, will have to move to scramble signal. In N.Y., S/TMC spokeswoman Tola Murphy-Baran said company has narrowed choice for scrambling system to M/A-Com and Scientific-Atlanta. Company will definitely scramble, isn't sure whether it will sell service to TVRO owners, she said. No date has been set to start scrambling. Showtime has DBS rights for most of its programming.

More Hardware

In separate announcement at SPACE/STTI show, M/A-Com said it will issue "preliminary set of requirements" Oct. 1 describing how home TVRO satellite receivers can be made to wor kwith company's Linkabit Videocipher II descrambler, unit HBO has decided to use. Requirements will allow receiver manufacturers to evaluate units for compatibility and necessary modifications, but shouldn't be used to make design changes in production units. Final set of requirements will be released to industry after field trials in Dec. 1984.

M/A-Com also will evaluate home TVRO receivers this fall, suggest changes to suppliers based on tests. Kinderman said HBO tests of 40 receivers show most are compatible with some modifications.

COMSAT, PRUDENTIAL AND DOUGLAS RUHE STRIKE DEAL TO OPERATE DBS FIRM

Capping month-long negotiations over fate of low-power DBS firm United Satellite Communications, Comsat, owner of DBS company Satellite TV Corp., Prudential and UPI CEO Douglas Ruhe have agreed to form new DBS firm. Deal is styled "preliminary agreement" by Comsat, which walks away from talks with around 50% of partnership to be capitalized by equity & debt.

Prudential reportedly had already more than doubled its initial $15 million investment (for 50% share) in USCI, which has struggled against high equipment costs and zoning regulations to reach subscriber base it claims is around 10,000. Insurance firm was unwilling to put any more

into USCI, which had run dry of operating capital. USCI was said to have had bankruptcy papers drawn up, was prepared to order cutoff of uplink services in late Aug.

For its part, STC had sought partner for some time to save its skin with Comsat investors, growing weary of financial drain from company that had spent $90 million in startup phase alone. Negotiations with Prudential as potential partner began some time before Comsat Aug. 17 board meeting. Neither Prudential nor Comsat officials would disclose Prudential's new partnership share, but Prudential official said it would be "substantial."

Neither STC Pres. Richard Bodman nor USCI Pres. Nathaniel Kwit is expected to continue with new merged company, we're told. Businesses will be "integrated" and operated by partnership, Comsat said. Shareholders of USCI other than Prudential would also hold limited partner interests, Comsat added. N.Y. real estate developer Francesco Galesci, who originally bankrolled USCI, denied he had sold any shares in company as part of merger. It couldn't b edetermined by press time whether General Instrument, with 15% share in USCI, would continue as minority partner or sell out. GI almost certainly has lost equipment foothold in newventure. Comsat, which controls partnership, has firm deal with Toshiba and Alcoa/NEC (Ancom) for equipment; Comsat spokeswoman said GI might find place as lesser supplier under contract to Toshiba and Ancom.

New venture, yet to be named, will use SBS-4 satellite designated by STC and Anik satellite contracted for by USCI to operate service initially. After life of contract, partnership will expand service to birds being built by RCA. Agreement provides that Comsat retain ownership of satellites, with either sale or lease to partnership when birds become operational.

THIN CROWD TACKLES SATELLITE ISSUES AT SUPERDOME

NEW ORLEANS -- Satellite Communications Users Conference (SCUC '84) ended Aug. 30 with organizers claiming 1,500 attendees but observers at scene speculating that number was lower. (Last year, organizers claimed 3,000 attendees; observers then put total closer to 1,900.)

Although some satellite companies, such as Ford Aerospace, Satellite Business Systems and Western Union were absent from exhibition area, SCUC participants we talked with said they thought exhibition was better than previous years. One exhibitor said he was "generally pleased" but would have liked more floor traffic.

Most effective display at SCUC was almost certainly Alcoa-NEC Communications' simulated downlink from DBS satellite directly into Apple Macintosh computer. Simulation showed personal computer downloading from satellite information from "host" computer to create "atmosphere" of data reception on DBS equipment available now.

Ancom spokesman said advantage of DBS data transfer vs. land lines is that DBS offers significantly higher speed transmission. For demonstration purposes, computers were transmitting & receiving data at 9,600 bps. Compared to current 300-1,200 bps data streams in use with personal computers, faster rate could save users money, spokesman said, "and transmission rates directly from the satellite will actually be much faster than 9,600."

Dennis Fraser, pres. of Alcoa/NEC, which has equipment contract with Satellite TV Corp., said data would prove most exciting impetus to DBS business in U.S., will drive market more than will simple video services. As always, Fraser was outspoken in opinions on other aspects of DBS business, said that if STC did combine with United Satellite Communications and did away with USCI per se (as it did following week), "it wouldn't be a merger -- it would be a mercy killing."

HUGHES WOULD PROVIDE HYBRID DBS/FIXED SATELLITE TO IRISH ENTREPRENEUR

Hughes Aircraft has teamed with new Irish company, Atlantic Satellite, to offer hybrid broadcasting/fixed satellite system to be launched to Ireland's DBS slot at 31 degrees west.

Hughes would provide space segment to company controlled by Jim Stafford, Trinity College science professor & entrepreneur.

Atlantic Satellite believes that by incorporating both high-power DBS transponders and medium-power fixed-service transponders, Irish satellite could make profitable use of country orbital slot, which is same slot as that assigned to U.K.

Three other companies also have reportedly applied to launch and operate Irish DBS service: (1) U.K.'s United Satellites, joined with 3 Irish-led groups. (2) RTE, state-owned broadcasting corporation. (3) Irish Independent newspaper group.

September 17, 1984

FCC ASKS DBS REHEARING, WARNS OF NEGATIVE IMPACT OF COURT RULING

FCC has filed request for en banc rehearing of DBS case before U.S. Appeals Court, D.C., saying 3-judge panel that remanded portions of case to Commission in July "imposed its own preferred construction" on Communications Act provision regulating broadcasters.

FCC is concerned that panel's view that DBS is broadcasting and should be regulated as such "might well appear to apply as well to situations involving common carriers in other services," notably multipoint distribution service (MDS) and other satellite services. Those facilities recently have attracted customers who want to transmit programming directly to homes & apartment buildings, Commission added. Initial Court decision affects not only DBS but also these services, "drastically alter[ing] the legal environment... with negative implications for the public interest" in which "host of present and potential programmer-customers thought they would be allowed to operate," FCC said.

Petition said provisions in Act cited by panel in remand were "intended as narrow limitations on the broadcast licensee's otherwise broad editorial control over program content." Commission said it thus used its discretion in choosing not to regulate whole DBS industry as broadcasting, finding "compelling public interest to depart from... rigid allocation practice of the past." Petition added that Court shouldn't dwell on whether statute says what Commission should do, in minds of judges, but whether FCC made "reasonable policy choice." It warned that panel's opinion "threatens to inhibit the development of new and existing services, particularly in the satellite field."

FCC Comr. Rivera opposed decision to seek rehearing, saying that "we must avoid crying wolf when there is no wolf." Petition is "unnecessary and unwise... Congress intended those who disseminate radio communications directly to the general public to be classified as broadcasters." Rivera said that in correcting Commission's "misreading" of statute, court was "careful to acknowledge that we retain discretion to decide how best to comply with its ruling."

James McKinney, FCC Mass Media Bureau chief, commenting on petition at DBS conference in Washington last week, said: "Commission's position on DBS continues to be that maximum flexibility and freedom from government control is central to the Commission's regulatory plan, and promises in the long run to best serve the interests of the public."

In more general comments on DBS business, McKinney said "failure" of United Satellite Communications "has hurt the infant DBS industry severely." He said one big reason company failed was "the almost total lack of a vibrant, exciting, and well-planned marketing program." Key to success for DBS is good programming -- and programming is in fact "clearly more important to [DBS] success than to the networks or to local TV stations." If DBS serves up same fare already available free or at lower cost, "DBS will, quite simply, fail... The end product, not the form of distribution" will "decide the fate" of DBS, he said.

Answer for DBS operators looking for programming is to "look at what the networks are providing today and do something else," McKinney said. Programming should come from, not be "aimed at," middle America and should represent middle American values, he said.

September 24, 1984

AUSTRALIAN DBS WILL USE B-MAC TRANSMISSION SYSTEM

Australia, which plans to use Aussat system for DBS transmissions to outback beginning in 1985, has chosen B-MAC transmission system for that service, we're told. (MAC stands for multiple amplitude compandored, refers to manner in which system separates color from b&w.) Govt. originally planned to use PAL (phase alternation line transmission), but in Feb. started intensive review of all systems.

Australian Minister of Communication Michael Duffy made decision to back B-MAC, plans to announce move shortly, we're told. B-MAC was developed by Scientific-Atlanta in cooperation with Plessey. MAC principal was developed by IBA in U.K., and Europe subsequently agreed to convert to that system, although only British govt. has made any definitive commitment. European broadcasters favor C-MAC system -- B & C refer to manner of sound transmission.

Europeans chose C-MAC because it permits as many sound channels as desired, but it isn't compatible with cable systems. B-MAC digital system uses Dolby-developed delta modulation system called Delta Link that is said to be cable compatible and run at very low bit rate. System degrades slowly, as opposed to C-MAC, which falls apart completely with errors in bit stream, industry source said.

CHARYK & GOLDSTEIN PONDER COMSAT'S FUTURE

Comsat faces major questions on use of new DBS partnership with Prudential and UPI head Douglas Ruhe. Merger with failing United Satellite Communications (USCI) brought prospect of instant subscriber base but also uncertainties as to how to service customers. Comsat Pres. Irving Goldstein & Chmn. Joseph Charyk addressed these and other questions on future of DBS venture and Comsat in general at press dinner at Comsat last week. They also disputed notion that Intelsat won't continue in current form for next decade.

Before Prudential agreement, Satellite TV Corp., as Comsat DBS venture has been known, was in "holdback" position, awaiting partner funding for startup, Goldstein said. Comsat is still looking for more partners to cover $500 million cost of system. Despite uncertainties on programming, Goldstein said: "It's not essential that programming capability be a part of the partnership itself." He wouldn't reveal costs of "interim" service from now until 1986 when higher powered birds come on line, but predicted system's most cost intensive year will be 1987.

Goldstein said startup costs wouldn't be exacerbated by promise to service USCI subscribers because they would continue to generate revenue. "Driver into profitability" for service will be provision of entertainment programming to "poorly served" areas of country, he said. But he added that several informational & digital services were being considered and that UPI could well serve as programming resource.

Among questions to be answered: (1) Both Anik satellite and SBS 4 are available now, but Comsat hasn't decided which will be used to carry service in long run, Goldstein said. (2) Earth stations and ground equipment standards still are in transition and resolution is needed. (3) Comsat doesn't know when first 2-ft. dish will be available for DBS use.

October 1, 1984

EUTELSAT HERALDS CORONET DEMISE BUT LUXSAT PRINCIPALS AREN'T QUITTING YET

Eutelsat's ECS Council, meeting in Paris last week, was jubilantly touting final Intelsat coordination of 3rd ECS satellite as death knell for other regional satellite projects. But 3rd

ECS bird seems least of problems for Coronet's project privately to finance & launch medium-powered video satellite for Luxembourg.

Coronet European Dir. Mario Hirsch told us company is under gun from Luxembourg officials to complete financial package for satellite system by mid to late Oct. At same time, company has been asked to keep quiet about any deals it may finalize with private firms while Luxembourg govt. clinches agreement with French govt. for use of 2 transponders on DBS satellite TDF-1.

Antagonism between France & Luxembourg has been apparent since Coronet project was announced. French look warily at involvement by U.S. consultant Clay Whitehead in private Luxembourg initiative as bridge to American invasion of satellite technology and at system itself as competition to TDF system. Philippe Wade, Telediffusion de France international affairs dir., told International Institute of Communications Conference in Berlin that lengthy discussions between Luxembourg & France for Luxembourg's broadcaster Compagnie Luxembourgeoise de Telediffusion (CTL/RTL) to use TDF transponders hadn't succeeded in producing agreement. What deal depends on is certain "assurances concerning Coronet," Wade said. France has set end of month as approximate cutoff for reaching accord; in unlikely event that deal won't be finalized, it's conceivable that channels could be turned over to other parties, he added.

Eutelsat Secy. Gen. Andrea Caruso already has written off prospect of competition from Coronet and any other such projects -- at least publicly. Eutelsat release reported that Caruso said ECS-3 would enable Eutelsat to meet demand in Europe, "particularly with regard to transponder lease services for television distribution." Ability to meet demand "should stop certain private initiatives announced in a number of countries in Europe," he added.

Eutelsat offers 9 video transponders on ECS-1, 2 video transponders on ECS-2 leased by European Bestg. Union and 3rd video channel on ECS-2 leased by Norwegians, which would transfer to ECS-3 after it's launched. Organization hopes to add total of 9 video channels on ECS-3. "After all," Caruso told us, "there is a larger need for TV than for business services" in Europe. He wouldn't reveal council's projected prices for service, but they are likely to depend on whether bird has any competition by fall 1985 launch date.

Coronet's Hirsch told us ECS-2 video channels were going for "promotional price" of just under $3 million yearly. He said relatively low pricing couldn't continue because Eutelsat was looking to TV transmission to make its predominantly telecommunications-oriented services profitable. He added: "We're not at all worried that Andrea Caruso will put us out of business... That's the least of our troubles." Citing recent European Space Agency study on European transponder need, Hirsch said 36 countries were on record as wanting transponders for video transmission by end of decade. Given Eutelsat's 18 and Coronet's 16, there still is room for private enterprise, he said.

Meanwhile, Luxembourg was seeking to diffuse criticism of Coronet by offering its services in helping to develop next generation of medium-sized European satellites. As part of partnership with Germans & French (probably Aerospatiale and MBB), Whitehead would be at disposal of consortium and would bring with him expertise in satellite development and U.S. satellite manufacturing contacts. Europe is behind U.S. in development of smaller satellites, Whitehead reasons, and will need help to catch up in next 5 years. Whitehead, Coronet principal, would provide that assistance under condition that France & Germany use Coronet for first generation of services and withdraw objections to project in meantime.

RCA LOOKS TO DBS 2ND ROUND; DBSC & GRAPHIC SCANNING FATES UNCLEAR

RCA Americom, which didn't press first-round DBS application, has formally asked FCC to consider its filing in 2nd round. Meanwhile, other firms whose applications were considered in first round -- DBS Corp. & Graphic Scanning -- are fighting to hold their DBS authorizations.

"Extensive negotiations with a major company" have yielded "interest" from unnamed firm in acquiring capacity on RCA's planned DBS system, company told FCC late Sept. 21. In letter to Mass Media Bureau Chief James McKinney, RCA acknowledged that plan to defer launch until 1989 would mean application would "be considered as a part of the next DBS processing group." In fact, by not meeting Commission's July 17 first-round deadline to either begin construction or have construction contract for satellites, RCA in theory forfeited its authorization. FCC sources told us it's not a given that original application will simply be passed along to next round.

RCA argued that broad "modifications" it had made in initial application could be accommodated in 2nd round "without prejudicing the rights of any of the first or second round of applicants" and that company easily could have chosen to dismiss first-round application and refile. At same time, it can't count its chickens before final word from Commission; RCA acknowledged negotiations would lead to "contractual arrangement" only if it were in position to deliver DBS system by a "date certain."

Another first-round straggler, Graphic Scanning, filed letter with Commission last week saying it had confirmed "principal terms and conditions" of construction contract with RCA Astro Electronics and that formal agreement was imminent. Graphic told Commission in July it had failed until then to finalize contract because of dispute over its paging venture and couldn't arrive at language to condition DBS deal properly on outcome of that case. DBS Corp. is fighting for its life, trying to persuade skeptical Commission that it has met "due diligence" requirements set for startup DBS firms. Pres. Wilbur Pritchard, in Sept. 17 letter to FCC Chmn. Fowler, contends that submissions DBSC has made already should have met such requirements and any further financing effort is hindered by FCC's withholding certification.

If FCC were to deny final approval of DBSC, "you will kill our company with a stroke of your pen," Pritchard wrote. Commission in June elaborated on diligence standard, saying that DBS permit holders should be able to show that their contracts with satellite manufacturers & launch companies didn't contain "unresolved contingencies" that might preclude them from building birds. Pritchard said that June "retroactive" standard was less a diligence criterion and more a "Commission-imposed measure of guaranteed financial success." DBSC conceded it hadn't completed full 10-year financing, but said other applicants, "including some with very deep pockets," hadn't either.

To demonstrate intent to launch system, Pritchard pointed to "binding" $175 million contract with Ford Aerospace, $200,000 in earnest money paid to Arianespace for launch, $20 million memorandum of understanding with Arianespace for credit to build & launch satellites, marketing contract with Wold Communications. "Adverse publicity" on DBS caused in part by CBS & Western Union withdrawal from field has played large role in scaring off investors, he added. Nevertheless, company has committed more than $2 million to venture to date, he said.

Two deadlines have passed for companies to prove they have met FCC requirement to show due diligence in financing and building system. Only Satellite TV Corp., U.S. Satellite Bestg. & Dominion have met that test, but Commission has yet to revoke formally authorizations of any companies in first round. That was item on Sept. 26 FCC meeting agenda, but it was pulled at last minute. We're told that Commission was set to wrap up all DBS matters pertaining to first-round applications, but that Comr. Dawson had further questions about DBSC. FCC source told us item would "undoubtedly" appear on Oct. 17 meeting agenda.

BBC LEADER SAYS U.K. CAN'T LEARN FROM AMERICAN CABLE EXPERIENCE

BERLIN--Pooh-poohing cable and boosting DBS, Stuart Young, chmn. of BBC board of governors, told International Institute of Communications Conference here Sept. 21 that Britain has little to learn from America's experience with cable TV technology.

Joining growing number of Britons who are saying that cable in U.K. was stillborn, Young said DBS is superior medium because it offers opportunity for universal service. He said

discussion of cable impact in Britain "has been bedevilled by comparisons with the United States" where poor program and technical quality of terrestrial broadcasting has created demand for an alternative.

If cable is to succeed in Britain, it will be as interactive medium, Young said. He said that cable's problems in Britain represent "a faltering in the supposedly inexorable advance of the media & information society."

Young told 300 gathered here at Reichstag, former German parliament burned by Nazis and recently reconstructed as conference center, that "big can be beautiful in broadcasting because production of programs is such a complex, expensive and difficult operation. Large organizations are in the best position to take advantage of new technology."

Masato Kawahara, pres. of Nippon Hoso Kyokai (Japanese Bcstg. Corp.), Tokyo, said "there is no doubt that satellite broadcasting has almost unlimited potentialities for the future." He said high-definition TV "will soon develop into an epoch-making system with an impact as great as 70mm movie film." He said there's urgent need to establish an internationally standardized HDTV technology before it's too late because broadcasting industry may suffer serious trouble if countries use different system.

Although subject wasn't on formal agenda, corridors at Reichstag buzzed with gossip about fate of Coronet, Luxembourg's effort to establish U.S.-style medium-power telecommunications satellite system to offer cable program distribution & satellite-to-home TV. Consensus was that Coronet is in deep trouble, may have to fold tent within days.

European approach to DBS, which relies on strict adherence to 1977 ITU rules specifying high-powered satellites, has been widely criticized by Americans as uneconomic. But traditionalists in Europe were conceding no ground. One senior British commercial TV executive told us that Britain's Unisat DBS project was "doomed to succeed" because of Thatcher govt.'s determination that it be implemented. Another British TV official insisted that Britons wouldn't tolerate degraded picture quality that would be produced by resort to lower-powered satellites.

FCC Comr. Rivera wasn't "completely unsurprised" by Court decision on direct broadcast satellites that groups that transmit programming directly to public and retain control over such programming must be considered broadcasters under Communications Act. Speaking recently at IEEE symposium in Washington, he said Court action "sounds the death knell for the FCC's ability to continue the fiction that new television services are something other than broadcasting." As part of deregulation mood of FCC majority, practice "has been to narrow the definition of broadcasting whenever it can," Rivera said. "The importance my colleagues attach to being able to continue this practice cannot be overemphasized. It is critical to their ability to free the new mass media services from the program content-related duties they abhor and that go with classification of a service as broadcasting. Proof of the importance of this issue lies in the fact that the Commission has appealed the DBS decision to the full D.C. Circuit [Appeals Court, seeking en banc rehearing]. I'm sure, if necessary, the FCC will appeal the case to the U.S. Supreme Court."

October 8, 1984

COMPETING FIRMS OFFER SATELLITE SERVICES TO FARMERS

Satellite services geared to farming community are nothing new -- rural location and high stakes of agribusiness riding on weather and pricing information make farmers natural audience for satellite-delivered services. But now 2 competing companies are looking to provide both a DBS-like service to farmers and satellite-distributed agricultural news for radio station affiliates. Two approaches are instructive of completely differing views on marketplace of satellite-delivered services.

DBS to Farmers

Ex-producer of agricultural TV show Ag-Day and developer of hybrid seed corn have teamed to start one nationwide satellite agricultural network. Idea itself isn't novel, but proposal seems to represent trend of some new satellite services keying their prosperity to commissions from dish sales rather than success from marketing service itself.

Agribusiness Communications Industries (ACI), founded by Richard Hutchinson, seed corn producer, and James Berry, ex-Ag-Day, is targeted to 2.4 million farmers in U.S., only 25-30% of whom ACI principals realistically hope will sign on. Because advertising won't support service until subscriber base can be identified, Hutchinson told us, partners have hit on scheme to market dishes to subscribers to make enough money to support service until it catches on. We're told by others in dish industry that farmers are among largest and fastest growing group sof dish buyers. By marketing service and equipment in farm publications and through co-ops, Hutchinson said ACI could place 130,000 in first year of operation.

Service itself would consist of 3 offerings: (1) Six to 9 hours of video programming, some produced in-house. (2) 24-hour data line with information on commodities and stock market, international agriculture and weather news. (3) Satellite-delivered radio network featuring 4 mins. of agrinews updated hourly, offered to radio stations on barter basis.

Nascent firm has attracted 2 venture capital companies and some agricultural advertisers (chemical companies), none of which Hutchinson would name. Also unidentified is equipment manufacturer with whom ACI will deal. Hutchinson told us he's identified firm with 1,500 nationwide distributors and went so far as to say distribution network would spell success or failure of such venture.

Agrinet -- Satellite Radio

Ray Communications of Richmond, Va. is taking different tack. It's in process of putting longstanding agricultural news service to radio stations up on Westar 3. Service was to begin today (Oct. 8) with satellite feeds to affiliates. Pres. William Ray said company distributes to 54 stations in Va., Md. and Del., has purchased 30 downlinks, had half of them installed by Oct. 1. Stations will carry Agrinet service's advertising, which reaps revenue for Ray.

Ray said he's working with some 30 existing state satellite networks on agreements to relay his service by satellite. Package from Modulation Assoc. in Cal. of downlink equipment costs Ray $7,000 per station -- too high for average individual farmer. But Ray said equipment could be made available if there was demand for it. Ray also claims to have support of chemical, equipment and seed manufacturers, which have supported Washington-based agricultural news service for nearly 20 years. He has another significant jump on competition; service will be available nationally by Jan.

ARIANESPACE AND DBSC AGREE TO CREATIVE FINANCING OF 2 LAUNCHES

Arianespace and Direct Broadcast Satellite Corp. (DBSC) are planning creative form of launch financing for 2 DBSC satellites that will allow DBSC to make payment for first year of charges in form of up to $20 million of its convertible debentures.

Arianespace and DBSC signed memorandum Sept. 12 agreeing to defer payment on 2 launches for one year. Arianespace will accept up to $20 million in DBSC convertible debentures (which can be converted to stock or used to claim cash payment), equal to payments for first year of launch service.

Agreement is reminiscent of deal for launch services struck by General Dynamics and Rainbow Satellite, in which Rainbow bought 2 Atlas-Centaurs in return for GD promise to guarantee $200 million financing for Rainbow. While deals differ greatly, both demonstrate increasingly important role that ability to offer creative financing plays in launch vehicle competition.

Douglas Heydon, Arianespace Inc. exec. vp-gen. mgr., told us: "It's not a loan... This is simply a vehicle by which we can assist DBSC in getting the balance of their equity financing. "Arianespace and DBSC don't have formal agreement yet, Heydon said, but launch services contract and credit agreement were expected to be signed by Nov. He said agreement represented "relatively modest risk to us" since Arianespace can sell launchers to other customers if DBSC deal doesn't work out. If DBSC is successful, Arianespace would either get full amount due plus interest, or considerably more if debentures increase in value. Conversion of all or part of debentures would be Arianespace option at rate of $50 of principal per share of DBSC common stock.

"It's not at all clear we'd wish to take any ownership in the company," Heydon said. He pointed out that U.S. limits foreign ownership to 20% of any domestic communications satellite firm, said if Arianespace exercised ownership right it would be restricted.

Another bonus to Arianespace, if DBSC succeeds, is memorandum's stipulation that DBSC has committed to give Arianespace "right of first refusal on all launches it may require for the next ten years." DBSC launches are planned for Nov.-Dec. 1987 and April-May 1988.

DBSC proposed novel financing structure, Heydon said, and Arianespace accepted because "approach is very sound." Heydon said he believes DBSC will succeed in direct broadcasting because, unlike other potential DBS firms, it plans to offer service on common carrier basis, doesn't intend to get into programming.

Does this set precedent for future Ariane customers? "We will treat each one on a case-by-case basis," Heydon responded. "Arianespace is not a big enough company to do this for a lot of people for a lot of bucks."

DBSC filed memorandum at FCC Sept. 17 along with amendment of contract between DBSC and Ford Aerospace on agreement to procure 2 satellites. DBSC is awaiting FCC's "due diligence" finding in hopes of winning orbital position assignments for its satellites. DBSC told FCC that its efforts to raise capital have been impeded by delay in obtaining due diligence finding.

BACKYARD EARTH STATION USE WOULD BE LEGALIZED BY HR-4103

House approved version of HR-4103 last week containing language that would permit backyard earth station owners to pick up satellite video feeds without fear of intimidation from programmers. Provision, 11th-hour addition Oct. 1 to cable industry deregulation measure, also says payment for unscrambled signals would be required once programmers have marketing system.

Language isn't in companion S-66 in Senate and at our deadline House and Senate were working on compromise version that could be sent to President for signature. Other pressing legislative business could keep Congress in session through much of this week, giving Commerce Committees more time to work out final version.

Provision mirrors much of HR-5176 by Reps. Gore (D-Tenn.), Rose (D-N.C.) and Tauzin (D-La.), represents compromise by manufacturers and programmers. New law would make clear that manufacture, sale and ownership of private dishes was legal, Gore explained: "This bill removes the legal cloud that has been hovering over the reception of signals from satellites by people with home dishes."

But in recognizing legality of backyard stations, bill would impose stiff penalties for unauthorized viewing or "piracy" of unscrambled signals and for importation, sales and distribution of earth stations for illegal use. Home dish owners who pirate signals would be liable for $1,000 fines and 6 months in jail. Piracy for commercial use would bring $25,000 fines and one year in jail for first offense, $50,000 and 2 years for repeat violations. New law would apply to satellite feeds for cable TV and to MDS, STV and DBS signals.

Lawmakers were forced to compromise with programmers before bringing bill up. Leadership wasn't allowing any controversial measures on floor because protracted debate would delay adjournment. Agreement came when programmers conceded home dish use would be legal if they haven't established marketing mechanism to extract payments from home dis husers for scrambled or unscrambled signals. Authorizing agents to handle sales or requiring point-of-sale sale payments are 2 methods programmers could use.

Bill wouldn't force programmers to create marketing systems, but observers said it would increase pressure for organized sales as home dishes proliferate. Estimated 600,000 dishes now are in use in U.S. Marketing system would have to be reasonable, couldn't be used merely to discourage home dish use, Gore said. Manufacturers, dealers and distributors also couldn't be forced to pay tax or royalty on equipment sales under bill, Gore said. Proposed law also wasn't intended to affect existing copyright obligations.

COMSAT, PRUDENTIAL AND RUHE EYE MANAGEMENT CHANGES FOR DBS FIRM

Management shakeup is in process at Satellite TV Corp., DBS partnership venture of Comsat, Prudential and Douglas Ruhe, we're told. Comsat would say only that Richard Bodman, former pres. of what was Comsat subsidiary STC, had resigned -- move not unexpected. Michael Alpert, former exec. vp, now is acting head and that Senior Mktg. Vp Ronald Castell has been replaced.

Bodman was on vacation last week, told us he is still on Comsat payroll and would be working on "project" he didn't specify. Also still on job was Nathaniel Kwit, USCI pres. We were told that STC & USCI still are being run as "separate" companies, pending definitive merger agreement.

Several other changes reportedly are in works, with final management team to be chosen by consensus of new partners. Sources told us, however, that partnership has tentatively concluded on personnel to head following areas: (1) Administration and finance, Edmund Bartlett, STC's former vp-finance. (2) Field operations, James Badaracco, ex-STC. (3) Engineering, David Beddow, ex-STC. (4) Legal, Warren Zegar, former STC. (5) Marketing, David Gordon, former United Satellite Communications.

Comsat spokesman said that talks to date had concluded it would be best to locate venture in N.Y. area. Other decisions, we heard, depend on results of discussions. Under discussion are actual details of partnership and participation of individual firms, talks about other prospective partners and honing business plans for DBS firm as whole.

Acting quickly, U.S. Appeals Court, D.C., Oct. 4 denied FCC's request for en banc rehearing on July decision that DBS constitutes broadcasting under terms of Communications Act, must be regulated at such.

October 15, 1984

'BROOKS...THE SATELLITE STORE' GOES NATIONAL, OFFERS FRANCHISES

First of what Brooks Satellite Inc. hopes will be many "Brooks... The Satellite Store" retail shops are set to open this month in Matawan, N.J., and Ft. Myers, Fla. Chmn. Jack Grumet told us Brooks hopes to sell 10-20 franchises for home satellite system stores by end of Oct., have 100 operating in year.

Brooks, which has been in backyard dish business as N.J.-based dealer, appears to be first to attempt to set up franchised chain of stores. Until now, retailing in industry has been dominated by single-owner stores, some set up as sideline in owner's garage. Curtis Mathes agreement to sell Amplica systems is another sign retailing may be moving away from Mom-and-Pop operations.

Grumet estimates each franchise will average sales of $500,000 per year, for total revenues of $50 million at 100 stores Brooks hopes to open in next year. Franchise costs $25,000, paid in $5,000 installments over 5 years. In addition, franchisee must pay 5% of sales as royalty and additional 2% for national ad fund. Stores will sell private label TV receive-only (TVRO) systems, Grumet said, but he wouldn't identify suppliers. Satellite systems won't be Brooks stores' only product. Company has signed deal with Hitachi for VCRs, projection TVs and other home video equipment. And while he doesn't expect each Brooks dealer to become "a TV store or Curtis Mathes," Grumet guessed 20% of each store's sales will be in TVs and other home video equipment.

Company is working on plan to provide 3-year warranty on equipment, scarce commodity in TVRO business. Brooks also is negotiating with GE Credit Corp. to set up Brooks credit card so consumers can charge purchases.

Brooks recently raised $500,000 in working capital from private placement, plans eventually to go public. Grumet said he isn't concerned about big-name retailers such as Radio Shack or Sears moving into business. Selling backyard dish systems requires installation, something major retailers can't do, he said.

Company also announced that David Bondon, former mktg. vp for M/A-Com Cable Home Group, is joining firm as pres. Founder Fuller Brooks moved up to vice chmn., will handle marketing of franchises. Bondon, with 21 years in microwave business, brings engineering and marketing experience. He currently serves as pres. of Direct Best. Satellite Assn., Washington-based trade group.

At Radio Shack, meanwhile, company continues to look at TVRO business but isn't ready to make move, Pres. Bernie Appel told us. "Severe installation problem" -- where dish will work on one street, but not on another -- is holding company back, he explained. Also, company i sworried about pay cable services' scrambling their signals, move that could reduce appeal of dish. RS got taste of business recently as sales agent for United Satellite Communications' DBS service. Retail stores took orders for service, RCA installed dishes. RS was pleased with way program was going, but merger of USCI and Comsat has put program on hold, Appel said.

FCC ACTS ON 'DUE DILIGENCE' OF DBS APPLICANTS

FCC last week gave new lease on life to Direct Best. Satellite Corp. venture by accepting firm's DBS launch application, subject to removal of "uncertainty" over construction schedule. Ruling also gave final launch authority to Satellite TV Corp., Dominion Video Satellite and Hubbard's U.S. Satellite Bestg., granting most of companies' requests for permit modifications.

While DBSC may have "misinterpreted FCC's meaning" of "complete contracting for construction" contained in due diligence requirements for firm launch and building contracts, it has signed launch services pact with Arianespace and has made "significant and continuing efforts to advance" system, Commission said. FCC said it will withhold final channel and orbital location assignments until DBSC completes funding arrangements, which gives company until March 31, 1985, to finalize credit line.

FCC order made it "eminently clear" that contract with contingency clause, such as one between DBSC and Ford Aerospace, won't meet due diligence requirement in future. To approve such a deal again would "eviscerate the important concept of the due-diligence standard." Permittees, if allowed to make contingency arrangements as matter of course, could postpone systems indefinitely until market looked most favorable to entry, contrary to public interest, FCC said.

As expected, 3 other applications were dismissed -- CBS, Graphic Scanning Corp., Western Union. CBS and WU had withdrawn from first round of applicants, but GS had asked for extension of Commission deadline because complications in another business had held up final agreement with satellite builder RCA Astro. Since other companies "unwilling or unable" to

commit to starting systems voluntarily withdrew their applications, and since GS didn't even succeed in drafting "contingent commitment," Commission decided it would be "unfair" to grant extension.

RCA Americom will have to wait in line behind 7 applicants in next DBS round, FCC also decided. Commission accepted RCA application, with modifications that would scale down size of system, and assigned reqest new file number (DBS 84-06), but canceled company's conditional construction permit since RCA "has not attempted to meet the due-diligence condition."

Also taking back-of-line position are requests from Dominion and USSB for more channels than originally sought. Both wanted 2 more channels for total of 8 apiece; both requests received new file numbers (Dominion, DBS 84-05; USSB, 84-07). RCA, Dominion and USSB applications will be considered after next round; FCC source said that doesn't mean there will officially be 3rd round, only that applications will be dealt with in some way after next round is completed.

STC was authorized to launch 2 satellites with 3 channels each (6, 8, 10, 12, 14 and 16) providing DBS service from orbital position 110 degrees west longitude (change from 101 degrees). Dominion was assigned 119 degrees west for 2 satellites, each with 6 channels (6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26 and 28). FCC granted USSB request to change its authorized channels and one orbital position, assigned 110 degrees (service to eastern U.S.) and 148 degrees (for western half). USSB also will have 6 channels on each satellite.

Ministers for industry, communications and culture in Nordic countries, meeting recently in Helsinki, decided to use C-MAC transmission system for Nordic DBS satellites. Transmission is planned to start in 1987 with launching of experimental satellite TELE-X. U.K. also has settled on C-MAC standard.

October 22, 1984

BIONDI DEPARTURE AND TIME FINANCIAL REPORT CLOUD HBO'S DBS PLANS

HBO's future involvement in DBS is being questioned in wake of Chmn. Frank Biondi's announced departure 10 days ago. Biondi had been backer of HBO efforts in DBS, and some observers see pay-TV network now sticking closer to its cable roots. However, spokesman Alan Levy said HBO will move ahead with scrambling plans, has told affiliates it's getting ready to ship descramblers. Unanswered question is whether HBO will then sell scrambled service to home dish owners. Levy indicated company is still in midst of determining if TV receive-only (TVRO) equipment owners offer viable market. That decision is what ultimately may be affected by Biondi's departure.

Abrupt dismissal of Biondi continued to rattle HBO and rest of pay-TV industry last week. Rumors of bloodbath were rife, but few hard facts emerged as Time Inc. and HBO officials made themselves scarce. Executive at major MSO called it "one of the most buttoned-up situations that I've encountered in the cable business."

In wake of Biondi's departure, Time Inc. reported higher earnings and revenues for 3rd quarter, led by strong performance of publishing operations. But numbers also told story of HBO's continuing problems in maintaining past profit levels. Pretax profit at Video Group, which includes HBO and cable operator ATC, slipped 2.8% to $56 million from $57.6 million in prior year's period. Slowed subscriber growth and higher programming costs at HBO dragged down earnings, parent said, despite boost in ATC profits. HBO costs are climbing at 14-15% rate while subscriber base is growing at half of rate company expected, one analyst told us.

Third-quarter drop in pretax earnings was marginally better than 2.9% decline in 2nd quarter, when Video Group's well-publicized profitability slide began. In 9-month period, pretax earnings were up slightly from $161.2 million to $164.2 million. However, Time may have altered accounting practices to mask HBO problems. First Boston analyst Richard

MacDonald says that from 2nd to 3rd quarter of 1984, VG pretax earnings climbed $3.1 million and revenue was up $5 million, giving VG incremental profit margin of 62%, which means "something had to happen" -- such as change in amortization schedule for HBO's original programming costs.

Meanwhile HBO monthly performance report, based on audience surveys, was down in Aug. in 4 key areas: (1) Gross total subscriber satisfaction, off 10% from Aug. 1983 levels. (2) Weekly reach, off 2%. (3) Viewing hours, off 8%. (4) 24-hour rating, off 8%.

Biondi was at HBO last week clearing up severance agreement, should have announcement soon about plans. He reportedly had been offered top spot at United Satellite Communication sseveral months ago. Others at HBO are expected to follow his departure -- possibly in droves. Estimates of layoffs among 1,700 HBO employes range from 170 to 400 or even higher. There was no sign last week that HBO would repeat action last year when same rumors surfaced and hire N.Y.'s Roseland Ballroom to calm jittery nerves.

Speculation is strongest on upper level changes, suggesting arrival of ATC Chmn. Trygve Myhren or Pres. Joseph Collins, with Time Corporate Planning Vp Winston Cox, ex-HBO Network Group pres., brought back as internal consultant to revive marketing. Myhren and Collins were at Time board meeting in N.Y. Oct. 18 to make presentation on unannounced subject. New CEO Michael Fuchs will need help at top. With Biondi's former responsibilities added to those he retains as pres., Fuchs now has 13 HBO units reporting directly to him.

Problems at HBO had their roots in decisions made 3 years ago. HBO had choice then of going exclusive or nonexclusive route. Former was expensive but would have clearly differentiated service and gotten higher rates from subscribers; latter was less costly but required cut-rate marketing in face of heavy competition. HBO made big noise about exclusivity, spending estimated $1 billion on movie rights, but ended by straddling fence, "and when you do that, you tear your crotch," said one former executive. Exclusivity path should have been followed to completion, according to studio executive: Nonexclusivity is "philosophy of economic need or surrender."

HBO is happy with scrambling provisions adopted in cable bill (S-66) 2 weeks ago, and with provision that makes signal piracy illegal, Levy said. We've heard from second M/A-Com source that HBO has begun working to convince other programmers to adopt standard equipment and that Showtime/Movie Channel had indeed decided to go with M/A-Com encryption technology. However, Levy said that HBO, beyond saying it had "set a standard for the industry," isn't encouraging Showtime, Disney Channel and other programmers to go one way or another. S/TMC said it is still looking at both M/A-Com and Scientific Atlanta equipment, hasn't made final choice.

Richard Brown, Washington attorney for SPACE, satellite earth station industry's trade association, also lauded provision adopted in cable deregulation bill that would legalize home satellite earth stations as bringing dish industry "out of the dark and into the light." SPACE Pres. Peter Dalton, pres. of KLM Electronics, said measure will enable earth station industry "to compete on equal footing with cable and other pay television services" and to demonstrate economics of providing "greatest viewing opportunities" most cheaply.

DBS TO VIE WITH CABLE FOR AD DOLLARS AND PROGRAMMING

Programming remains one of toughest challenges for DBS, leading advertiser told DBS Assn. meeting in Washington last week. But advertisers aren't interested in "programming per se -- either in the quality or subject matter," as much as in potential medium has for delivering large market segment as yet unreached by other forms of pay TV, Needham Harper Worldwide Senior Vp-Programming Richard McHugh said.

"Cable may have seen its best days," McHugh said. Estimates put DBS's potential share of uncabled homes at around 20-25% and "I think that figure's understated." It's now so expensive

to build cable systems and costs are rising so rapidly that operators are withdrawing from new franchise territories, he added. Of course, these facts alone don't make DBS more attractive as ad delivery medium, McHugh said, adding that "DBS won't be very attractive to advertisers [if it] is limited to rural areas," where it is difficult for suppliers to distribute their products, or if response is greatest in poorer, inner-city areas.

Programming becomes important issue when one recognizes that DBS audience potentially is larger than even its strongest proponents think, McHugh said. "The landscape is littered with corpses" of ventures such as Satellite News Channel, Entertainment Channel and "even HBO is now beginning to stagger," he said. There's hardly enough good programming to sustain 3 major TV networks but, having said that, "the appeal of advertising support is irresistible," he said, and with ad dollars will come revenue to fuel development of good programming.

Most exciting DBS expansion may be in Europe, where cable's still in early stages in some countries and audience is hungry for new viewing material, McHugh said. He agreed there's certain amount of "cultural resistance" to foreign DBS programming but said "the progress of technology is unstoppable... Regardless of what regulatory bodies think, there will be satellites up there and, if they don't participate, they'll be locked out."

Edward Bleier, Warner Bros. exec. vp, told DBSA dinner: "If DBS can connect them to another 1, 2, 5 or 10 million homes, then Warner is interested." DBS is "fundamentally a very sound business," though tough one to break into, he said.

In contrast to McHugh, Bleier was high on cable, saying that he could "write an optimistic scenario for Showtime." Services that have been successful are varied, he said; MTV is "the only successful narrowcasting on cable." If DBS is to survive, "it's got to deliver either more TV than the people can get now or better TV," he added.

DBSA IS GRANTED DOJ CLEARANCE, WORKS TO DEVELOP DBS STANDARDS

Antitrust Div. of Justice Dept. has cleared way for DBS Assn. to recommend technical standards for direct broadcast satellite equipment, but coming up with consensus on those recommendations is another matter. DOJ said work of group's Standards Committee "may well result in competitive benefits" for DBS industry.

Justice Dept. decision was made public at Assn.'s first annual meeting in Washington last week. Industry had long considered it vital to have single set of criteria so customers could buy one set of gear to view any available channels, thus keeping cost of DBS service competitive with cable and other pay-TV media. FCC had declined to set technical standards for equipment, so DBSA had asked DOJ to rule on legality of group's effort to arrive at single recommendation for entire DBS system.

DBSA Standards Committee now will "move rapidly" to devise standard, with early next year as target date. If it can't agree by then, de facto standard will exist because leading DBS firms will have little incentive to backtrack on systems they already have designed for operation by late 1985.

Some companies, such as Satellite TV, are well along in developing equipment; others have said they're not much interested in any DBSA recommendation on standard since it would be only voluntary and might not be adopted by all manufacturers. Meanwhile, DBSA is soliciting proposals for whole and partial systems from U.S. and foreign firms. Next committee meeting is Oct. 29; first presentations will be entertained Nov. 15 and 16.

Hopeful sign in search for standards was concession by STC's Michael Alpert that newly reorganized firm is willing to discuss compromise on criteria, though it is "very far along" in developing own standard and it "wouldn't be prudent to make substantial changes" in plans.

Dennis Fraser, exec. vp, Alcoa-NEC, which has STC equipment contract, took optimistic approach to standard, said much of its development was in software that could be adapted more easily than hardware in production.

M/A-Com source said his company is looking to HBO to establish de facto standard. HBO has chosen M/A-Com encryption package for C-band that M/A-Com hopes DBS industry also will accept, source explained. If M/A-Com takes its ball and goes home, so to speak, "it's the customer's loss," another DBSA member said.

Technical problems have forced delay in scheduled Nov. 1985 launch of first French DBS satellite, TDF-1. Launch now is scheduled for last half of 1986, according to Telediffusion de France. French authorities attributed setback to high-powered amplification tubes made by Thomson-CSF. Company will have to rebuild tubes, which were "cracking" during tests. Program already has suffered uncertainties, and French officials still haven't decided whether to plan 2nd TDF because of controversy over whether such heavy satellites are as suitable for DBS use as smaller birds. Officials of Coronet, firm hoping to launch Luxembourg TV bird, were careful not to revel in setback but said company could find room on its satellite for Compagnie Luxembourgeoise de Telediffusion (CLT/RTL), which had booked space on TDF-1.

DBS home terminals are on sale in the Akihabara, main electronics district in Tokyo, but sales have been slow, salesmen told us. When Japan's Yuri 2 broadcasting satellite was launched recently, it was with hope that it would provide 3-channel service starting this year. But of 3 Thomson-CSF traveling wave tube amplifiers on Yuri 2, only one is working. So NHK, Japan's public broadcasting organization, has declared service is still experimental. This has reduced appeal of service and delayed introduction of high-definition TV. DBS dishes we saw on sale were not inexpensive -- we were quoted prices of $1,100-$1,500 for equipment, including antenna, down-converter, tuner, installation.

Switzerland's Federal Council has decided to reject private offers to operate country's DBS system, saying it didn't have authority to grant license to any Swiss company to operate system that could have international coverage. Even Swiss DBS system isn't a given, although preparatory studies for domestic system have been given go-ahead. Swiss PTT is in charge of study and has authority to receive proposals on system use and management. Expected among them are Tel-Sat of Basel, Universum Press of Geneva, Peter Kappeli of Regensdorf, Teleclub of Zurich.

Release of China's RFP for 2 of 4 planned DBS satellites is imminent, we're told by industry sources. Ford Aerospace, RCA Astro, MBB of W. Germany and France's Matra are expected to be invited to bid. Full cost to China of new broadcasting system could run $1 billion.

Newly elected DBS Assn. board: Dennis Brownlee, USSB; Warren Zeger, Satellite TV; Harley Radin, DBSC; Allan Davis, HBO; Roger Rusch, Ford Aerospace; Jack Frohbeiter, RCA Astro-Electronics; Robert Morrell, Alcoa-NEC; Brian Garrett, M/A-Com.

October 29, 1984

USCI SAID TO HAVE HAD LITTLE BEYOND HYPE

Picture drawn by insiders of United Satellite Communications indicates DBS venture had little going for it almost from inception. Company, now amidst reorganization pending merger with Comsat's Satellite TV Corp., never got coherent management, according to one source.

Myriad frustrations led to constant infighting among marketing, operations and business affairs departments, sources said. "It almost seemed to be management by conflict," USCI source told us. Studios, major source of programming, didn't know whom to believe. "There were not a lot of truth tellers," in words of one Hollywood executive. Another doubted USCI's resolve: "It's a 16-hour-a-day business for the next 2 years. Are these guys up to it? At this stage, it's getting your hands dirty, not just having lunch with the financial community."

When USCI financial problems became obvious and activities were diverted from marketing to fund-raising, studios took defensive action, required company establish $1 million lines of credit as guarantees against losses. Marketing was off target from beginning in Indianapolis, area "smudged" by cable and availability of C-band backyard dishes at $50 per month, vs. USCI's $500 purchase fee for 5-channel service. Penetration was minuscule, probably few hundred homes, didn't improve until USCI lowered price in Baltimore-Washington launch. Service at present has fewer than 10,000 subscribers.

Result in Ind. was that "you were talking about tens of thousands of dollars in [subscriber] acquisition costs," USCI executive told us. "It was a disaster." Chicago push also was poorly handled, in his opinion, because "nobody knew [city] approval [for dishes] was required" and never received. USCI thus was forced outside city limits to suburban Cook County, where cable is strong.

By spring, it was apparent company needed financial infusion, but no one responded to attempted private placement, and from April to Aug. USCI "lingered on -- nobody paid attention to operations." Abrupt downturn must have come as great surprise to key investor Prudential, which we're told had expected USCI to start turning profit in 5 years. One source figured Prudential already has lost $55 million in venture, General Instrument $20 million, other investors $10 million for grand total of $85 million. Losses were heightened by expansive attitude at start, with few cost controls in place.

Efforts to save USCI focused on consortium that included HBO, Showtime, GE, GTE, RCA, Prudential. Despite cumbersome appearance, it was considered viable, with RCA building next generation of satellites, GTE launching them, pay services gaining entrance into DBS. "Lots of meetings went on" before deal fell apart, we're told.

COMMERCIAL DISH BUSINESS LAGS; SLOWDOWN IN CABLE BUILDING CITED

For Scientific-Atlanta, 1984 business rebounded substantially from 1983, company's most dismal year ever. But analysts say firm's yearly and first-quarter financial statements can't necessarily be read as bill of health for commercial (as differentiated from backyard) dish business. Taken with earnings figures for another major satellite equipment manufacturer, Harris Co., figures constitute caution flag for investors.

Overall for fiscal 1984, S-A showed increase in net earnings to $11.8 million, vs. $.4 million in 1983, on net sales of $399 million. New orders were up 66%, net sales up 22% and earnings per share were 50¢ compared with 2¢ year earlier. In comparison with first quarter 1984, same period in 1985 showed earnings were up 33% at $3.3 million, earnings per share gained 40% to 14, value of new orders grew 23% to $117.3 million and sales advanced 10% to $106.9 million.

Sidney Topol, S-A CEO, told us "we bounced back last year" from company's worst year. Growth will be sustained in 1985, he said, but he wouldn't predict when earnings would overtake 1982 levels. Sales from 1984 already top 1982's, $398.9 million vs. $337.2 million (latter figure was higher than in 1983).

Topol targets DBS and customer premise business equipment as major growth markets in this fiscal year. At Society of Motion Picture and TV Engineers convention in N.Y., company Tues. (Oct. 30) will demonstrate new B-MAC system sold to Australians. Topol said: "There's still some growth left in cable," more in so-called minicable or special interest systems like hospital networks. For these industries and DBS, most important development work will involve addressability, scrambling and security, he said, noting that company's Model 8500 converter has reached production rate of more than one million yearly. More important to DBS than actual receiver hardware is system of billing, selection and descrambling, he said.

BACKYARD DISH MARKET BOOMS, MOVES TO STANDARDIZE, GEARS FOR BANNER 1985

Number of backyard earth stations in U.S. passed one million mark in last couple of weeks, according to several industry sources. Milestone is significant for industry for several reasons, among them: Japanese, fresh from disappointing experience with Ku-band DBS, now are looking with more interest at home TVRO market and industry is making serious effort to standardize so it can move sophisticated receiving equipment into mainstream retail outlets where it can better capitalize on booming consumer interest.

Rick Schneringer, pres. of STTI, dish industry association, told us reports from manufacturers showed trend that would lead to industry's delivering another million dishes by end of 1985. He said there are shortages of "almost everything -- dishes, LNAs [low noise amplifiers], feed horns, actuators."

We surveyed industry and turned up few companies experiencing shortages, but many sources said they had "heard" there was problem for some. In particular, in-house ,whole-system manufacturers such as Birdview Satellite Communications of Olathe, Kan., hadn't noticed strain on supply, but Vp-Sales Edward Gibson told us company has been "ramping up" its production for some time to meet demand. Company's most recent quarterly figures (for period ended Sept. 30) show 96% jump in sales, to $11.8 million from $6 million in same quarter last year. Business is profitable too. Birdview showed quarterly net earnings of $1.3 million or 15 a share vs. $500,000 or 6 a share in 1983 quarter. Company expects trend to continue, making next quarter another record period.

Competition Intensifies

Taylor Howard of Chaparral Communications, which says it supplies 75-85% of market's feed horns and related electronics, said company hadn't noticed shortage of any particular gear. "In fact, just last summer there was an oversupply of LNAs." Chaparral's experience has been that "what we've produced, we've shipped." Howard predicted shakeout in receiver market in near future with entry of several new suppliers, including consumer electronic giant Uniden. Uniden in Aug. launched massive advertising campaign announcing full TVRO system.

Howard said Japanese were eyeing U.S. market with increasing interest, "now that it's a more than a million-unit market." Names such as Toki, DX, Hitachi and Toshiba have become familiar to dish distributors. Howard said he thought Japan's dismal experience with its Yuri 2 DBS bird (which now has only one operating transponder after 2 failed) and so-far unprofitable foray into U.S. Ku-band DBS had left warehouses full of unwanted DBS equipment. "I think now they're likely to realize that the C-band satellite dish market is much more viable than they'd originally thought," he said.

Moves to Standardize

Now that business is booming and competition abounds, TVRO industry is looking to establish standards to ensure smoother entry by new firms and to avoid disillusioning consumers with patchwork of equipment performance specifications. Year-old manufacturing association, National Assn. of Satellite Equipment Mfrs., has joined with another industry association, SPACE, to draw lines for dish business where none has existed.

First meeting was Oct. 15 in Dallas, where group decided to set up 4 committees to draw up standards in following areas: (1) Performance testing. (2) Measurements for RF components. (3) Interface equipment. (4) Collection and distribution of information on laws and regulations on standards in dish industry. Guy Davis, who has just left Uniden, chairs group, which has invited input from all industry sources. Next meeting will be at STTI Denver show.

Patrick Pogue, NASEM gen. mgr., said ethical standards for dish sales and installation would be within purview of standardization committees. Industry has suffered from firms looking to "get rich overnight" that either installed systems poorly or didn't provide service, he explained. Such practices are "black eye" for industry, and NASEM hopes to troubleshoot some consumer complaints to help maintain industry's reputation, he said. (Group is soliciting members. Contact: Shirley Ware, 918-496-0368.)

Pogue said TVRO industry really had "no standards at all" and that practices differed widely across country. Standardization effort will serve to educate manufacturers and help move dishes and related equipment out of specialized distribution into traditional channels, said others involved in effort.

Chaparral's Howard said time had come for dishes to become "real consumer item," not just specialized novelty purchase. He and others lauded passage of cable deregulation legislation that officially legalized home satellite TV reception. President Reagan on Oct. 30 signed bill containing provision clarifying legality of backyard earth station manufacture, sale and use. Unauthorized reception of scrambled or unscrambled signals that programmers market directly to home users becomes illegal under new law. Howard said Chaparral "conservatively" expects business to double in next year because equipment makers no longer will have to answer question: "Is this legal?"

Ronald Wysong, pres. of R.L. Drake, one of nation's largest producers of consumer dish equipment, agreed that passage of cable legislation would boost sales. After all, "industry is still only in its infancy," Wysong said. "What is really interesting," he added, "is the developing interest of urban consumers, who may be already passed by cable television, in the ability to receive 100 or more different transmissions for a one-time investment" of as low as $1,500. Drake said equipment such as ESR-240 satellite receivers already has been installed in N.Y. and L.A., with more expected.

* * * * *

Chaparral Communications will introduce new combined low noise amplifier and feed horn, called low noise feed horn (LNF) at STTI's Denver show. Company said LNF combines feed horn, polarization/rotation device and LNA all in one package and would cost less than buying LNA and feed horn separately. Company spokesman said "time has come to make the [home TVRO] systems more integrated" and simpler. He said combined systems such as LNF would set trend in industry to make dish equipment "more interchangeable."

LUXEMBOURG DEAL FOR FRENCH BIRD IS 'ON AGAIN'; CORONET IS FREE TO EXIST BUT NOT NECESSARILY TO SUCCEED

Luxembourg govt. late last month signed agreement giving Compagnie Luxembourgeoise de Telediffusion and operating company Radio TV Luxembourg access to 2 channels on French satellite TDF-1. Agreement gives go-ahead to RTL to start DBS broadcasts in French and German and puts tough hurdles in path of independent Coronet company, which has fought to launch private, European TV satellite from Luxembourg (SW Oct 5 p6).

Final pact between France and Luxembourg has been long awaited, was held up for months because of Grand Duchy's commitment to Coronet project that French opposed because of its threatened competition to TDF and to Eutelsat. Price of transponders on TDF to be made available to Luxembourg still hasn't been decided, we're told, and, in on-again off-again deal, there's still reason to be skeptical.

But one facet of agreement will make life tough for Coronet. France and Luxembourg have agreed on "noncompetitive" clause barring any Luxembourg satellite company other than RTL from transmitting into France for 5 years. Coronet thus is blocked out of about 50% of its initial target market, though spokesman Mario Hirsch said he was confident company still is commercially viable.

Hirsch told us that DBS antenna market in Europe was underdeveloped and wouldn't be ripe for Coronet project until 1990 anyway. He added that company was free to broadcast to rest of Europe and to find nonsatellite means of conveying its pay-TV fare to France. Hirsch explained that RTL has "right to broadcast in the clear to France" but that Coronet wasn't barred from reaching joint agreement with French cable company to transmit its programming to French viewers via landlines. Such an agreement already is being negotiated, he said: "It's not impossible that we'll have a presence in the French market."

Meanwhile, Coronet has received blessing of Luxembourg govt. to proceed in incorporating and financing project but will be required this week to show that company can be profitable without ability to broadcast to France. Hirsch acknowledged it "will be tough" to avoid its satellite footprint's spilling over into France. It remains to be seen how firm France will be i ninsisting on RTL's exclusivity clause: "It's an artificial restriction and we'll have to see how it works out," he said.

SCIENTIFIC-ATLANTA PUSHES B-MAC FOR CABLE AND BROADCAST AS WELL AS DBS

"Ours is the only approach in the world that has an order." So said Scientific-Atlanta Chmn.-CEO Sidney Topol at demonstration of B-MAC satellite transmission system at Society of Motion Picture & TV Engineers (SMPTE) technical conference in N.Y. last week. S-A announced that choice of system by Australian govt. for DBS and other satellite program distribution starting next spring has been followed by first $1 million-plus order for more than 200 B-MAC decoders by Telecom Australia (SW Sept 24 p5).

S-A officials said decoders would be available by Christmas and forecast that MAC (multiplexed analog components) technology would replace NTSC, PAL and SECAM color standards for satellite distribution. Topol and other S-A spokesmen made it clear that they're pushing B-MAC not only for DBS but for satellite program distribution to TV stations and cable systems as well. Although B-MAC can be converted easily to NTSC, they said it can be carried by cable systems, so subscribers eventually could receive what they described as the superior MAC pictures and services in their homes.

MAC systems transmit color and monochrome (luminance) information sequentially for each line, sharply improving apparent resolution. S-A demonstrated 525-line version (Australia's is 625-line) that's understood to be under consideration by Comsat's STC. Demonstration employed simulated satellite transmission, with B-MAC converter feeding signals through video input of Mitsubishi monitor receiver, simultaneously sending computer program, 6 channels of digital audio (using Dolby Delta system) and 200 pages of teletext.

Among major advantages of B-MAC, as outlined by S-A, are increased resistance to picture deterioration and inherent encoding by means of line-by-line code that changes 4 times each sec., and can be unscrambled on both pay-per-view or per-channel basis. In addition, system can be used for electronic mail, on-screen billing information and instructions, etc., is entirely addressable via wireless remote control unit -- which features "buy" button for acceptance of pay programming.

Decoders are being made by Plessey, S-A said, and are expected to feature outputs for home video monitors as well as RF outputs for older sets and RS-232 ports for computers. Cost will depend on amount of production, Topol said, declining to estimate prices. When it was pointed out that EBU already had chosen C-MAC for DBS, Topol said B-MAC actually was "5th or 6th generation more advanced [and] EBU countries are interested and talking."

Asked how many individual receivers could be addressed by one system, Topol referred question to engineer, was told answer was 4 billion. After contemplating reply, he quipped: "Better say 10 million -- nobody will believe 4 billion."

China Bestg. Satellite Corp. (CBSC) officials currently are touring U.S., apparently sizing up satellite manufacturing and launching facilities in preparation for issuing RFP for Chinese DBS system. Delegation, which arrived in U.S. Oct. 27, has met with White House Science Adviser George Keyworth, toured Comsat hq and Comsat Labs and received briefing on Satellite TV Corp.'s DBS home equipment. Delegation, headed by Lu Keqin, acting CBSC chmn., also visited Commerce Dept. officials, toured NASA hq, met with Administrator James Beggs and Customer Services Dir. Chet Lee, then toured Air and Space Museum. This week, group will tour RCA's Vernon Valley earth station and hq, Kennedy Space Center in Orlando, Fla., view Nov. 7 shuttle launch. Week following includes tour of Johnson Space Center in Houston, Cal.-based Comsat digital software company Compact Software and Ford Aerospace satellite factory in Palo Alto. Delegation returns to China Nov. 18.

November 12, 1984

United Satellite, U.K.'s DBS satellite consortium, has proposed to its broadcasting customers redesign of system -- already very far along in construction -- that would give broadcasters 3 channels of high-powered video instead of 2. Unisat won't discuss who would absorb cost of changes, which would involve elimination of low-power Ku-band telecommunications package designed for British Telecom. British Telecom, founding member of Unisat with British Aerospace and GEC-Marconi, is said to be willing to defer to broadcasters in their demands for capacity. Daniel Gruneberg, Unisat managing dir., said "21 Club" (name coined for BBC, 15 independent TV operations and 5 production companies that together comprise "broadcasters" participating in project) had been told of need to drop Ku-band package should broadcasters desire extra video channel. Gruneberg described plan as "not necessarily the preferred solution," but one that Unisat partners were willing to undertake to "satisfy the customers." Other source said Eurostar satellite bus could be designed to accommodate both extra video and Ku-band package. Taken with Gruneberg's statement that Ku-band portion would have to be dropped to add another video channel, it could be concluded that construction is so far along that cost to revamp bird is greater than BT's interest in telecommunications package. Work was suspended on satellite 9-10 months ago. Unisat hasn't given deadline to broadcasters to determine whether they want 3rd channel: "We don't like putting threats to our customers," Gruneberg said: "They know how long it will take from point of decision to point of operation. It's up to them when they want to offer service." He described current negotiations on fate of DBS bird with broadcasters as "quite delicate."

Several potential DBS equipment manufacturers will present their technical design proposals to DBS Assn. (DBSA) Standards Committee Nov.15-16 in Washington at offices of Coopers & Lybrand, 1800 M St. Meetings, at 10:30 a.m. and 9 a.m. respectively, will be open to public. Contact: Frank Weaver 609-426-2966 or Gretchen Maynes 202-822-4105.

Graphic Scanning has asked FCC to reinstate its DBS construction permit and reconsider Oct. 9 cancellation of Graphic's interim DBS construction permit. "At the very least," Graphic asked, filing should be considered as 2nd round application. Graphic said reconsideration of permit cancellation was justified on "legal and equitable grounds," would be in public interest. Graphic said "ironically" satellite construction contract with RCA was signed on Oct. 9, same day that Commission canceled Graphic's construction permit on ground it had failed to show due diligence. Graphic argued that its full compliance with due diligence should be accepted, "in light of [FCC's] action accepting the imperfect due diligence showing of another first-round permittee, and granting special relief to a permittee who failed to make any showing at all." FCC was urged to consider Graphic's "new evidence" -- details of satellite construction contract.

Elected officers in DBS Assn.: Chmn. Dennis Brownlee, U.S. Satellite Bestg.; Vice-Chmn. Robert Morrell, Alcoa/NEC; Treas., Warren Zeger, Satellite TV Corp.; Secy., David Bondon, Brooks Satellite. New committee chairmen: Standards, Harley Radin, DBS Corp.; Public Information, Frank Weaver, RCA Astro-Electronics; Membership, David Bondon.

HBO TELLS STAFF 100 WILL BE LET GO

Memo announcing dismissal of slightly more than 100 employes was set for distribution at HBO as we went to press last week. Firings are less than 10-20% figure favored in rumors circulating since departure of Chmn.-CEO Frank Biondi.

"There are no plans for additional staff reductions," sources told us. Pink slips went to all departments but didn't eliminate any, thereby continuing HBO Enterprises, which had been rumored on skids. Memo was signed by Chmn.-CEO Michael Fuchs, sources told us, and also called for cost cutting at HBO, including major tightening on expense accounts.

Meanwhile, HBO continues to prepare to scramble signal next March. Company has begun notifying cable operators about rollout plans to ensure systems get number of M/A-Com descrambling units they need. Plans call for units to go first to HBO affiliates in western half of U.S., then in east. While company still is closemouthed about DBS sales, recent news release said scrambling "will protect its HBO and Cinemax signals from interception by owners of backyard satellite antennas."

HBO said that in Sept., for 2nd consecutive month, performance measures fell in key areas. Total satisfaction score dropped 13% from Sept. 1983, weekly reach 3%, 24-hour rating 13%, prime-time rating 16%, viewing hours 8%. In HBO homes, total cable viewing was up 9%, while network ratings were down 2%.

STC JUGGLES OBLIGATIONS TO CUSTOMERS WITH COST OF SERVICE IN REVAMPING BUSINESS PLAN FOR DBS VENTURE

Comsat and Prudential enter final partnership talks aimed at consolidating their respective DBS ventures with more headaches than planners may have bargained for when deal was conceived. Merger of Prudential's United Satellite Communications (USCI) with Comsat's Satellite TV Corp. (STC) brought more satellite providers and greater obligation to customers to new company (as yet unnamed but referred to as STC) than it may be able to afford. To ease its way into as yet uncharted DBS territory, STC thus has tried to bargain its way out of some of those obligations, apparently with only marginal success.

We're told that last week STC made "every effort" to bow out of deal with Satellite Business Systems whereby company was to lease 5 transponders on SBS-4 to launch interim DBS service. SBS confirmed Wed. that STC had in fact "renegotiated its contract for transponder service," though company spokesman wouldn't supply details. Comsat and STC were no more forthcoming, continuing practice of remaining tight-lipped pending definitive partnership arrangement. SBS and STC sources wouldn't even clarify whether STC has in fact bought its way completely out of SBS deal, or whether some nominal transponder space remains part of new agreement. Comsat spokeswoman said only that SBS-4 "will be available" for service.

Management Shakeup Continues

Some secrecy could in fact veil uncertainty about business plan, which we're told has been changed so often in recent weeks that plans circulated in company not only were dated but also were marked with time of day at which they became operative (and invalidated previous plans). Shifts in management personnel, designed to streamline company for better match with Prudential, have added to confusion as has absence of final decision on company head, sources said. Former USCI Pres. Nathaniel Kwit is lobbying hard to head new company born from ashes of his company and STC. Also reportedly in running for top job is former HBO head Frank Biondi.

Ten Satellite TV Corp. employes were laid off just last week. Out are management staff in marketing, public relations and broadcast engineering. Total ousted was "around 10," but 5 or

more others due to be cut switched to jobs at Comsat. Shakeup is still in works; we're told all who aren't part of new partnership team will be out by Jan. 1, with "transition team" support staff having until Jan. 4. Despite announced and pending layoffs at STC, there have been no such recent announcements from USCI, leading one insider to wonder whether Comsat will have strong decision-making voice in new partnership.

Satellite Contracts

Original deal with SBS gave STC "option" for 5 transponders on SBS-4, which STC later exercised. STC then paid SBS around $4 million to modify SBS-4, adding movable beam capability, with option of either narrow east coast or west coast service. All that was before merger with USCI, which brought in subscribers in areas unreachable by SBS beam. To fulfill service commitment to USCI subscribers in Ind., Ohio and Ill., STC has explored option of extending USCI lease, via GTE Satellite, of Anik C2. Telesat Canada Pres. Eldon Thompson told us that Telesat was "hopeful" that STC could arrange to use Anik C2 but that no definitive deal had been reached.

Anik bird presented itself as alternative because it's being moved from 105° west after GTE contract expires to 110° west, a Canadian domestic slot that just happens to correspond to space awarded STC in broadcast band (BSS) for high-power DBS. Thompson said attraction to STC was that fewer subscribers would have to repoint their dishes if service were initiated from same spot that final high-power satellite would occupy. Regulatory hurdles to such arrangement persist; GTE needed special authorization from FCC to lease Canadian bird for its customer USCI and approval was granted on assumption that no comparable U.S. domsat capacity was then available.

For its part, SBS already has faced problem of customer wanting out of contract. One year ago, DBS-hopeful Rupert Murdoch decided to fold Skyband's plans for 6-channel early entry service and sued SBS to extricate his company from $75 million deal, charging breach of contract. Case was settled out of court with Murdock paying SBS $12.7 million. Because of that experience, insider told us, SBS was "extremely careful" to fulfill all its contractual obligations to STC and was determined that DBS company "wouldn't walk" out of deal without paying considerable financial penalty.

STC and Comsat officials took up subject of final Prudential partnership talks Nov. 16 at regular Comsat board meeting, we're told. It was rumored that officials would map strategy at meeting to cope with unwieldy mix of business plans.

ARIANESPACE TO BOOST LAUNCH RATE TO 6-7 IN 1985, UP FROM 4 IN 1984

Arianespace released new schedule for 1985-1987 last week with 6-7 launches planned next year, up from 4 in 1984. It plans 7-8 launches in 1986, 7 in 1987. Rate is increasing because Arianespace has been able to cut launch processing time from 8 weeks in 1982 to 7 in 1984.

First Ariane 4 launch has slipped from March 1986 date shown on last schedule issued in Feb. to either July or Aug.-Sept. 1986. Bird has one payload, European Space Agency's Meteosat, but Arianespace still hasn't signed up 2nd user. In Aug., Arianespace offered several U.S. companies -- American Satellite, GTE, Western Union and RCA -- ride on first Ariane 4 for $12 million.

Subsequent Ariane 4 launches have been cut back from 6-7 in 1986-1987 to 4. Two of those are partially empty and one doesn't have customer. (New schedule lists only launches with signed contracts -- earlier schedule included customers that had made reservations.) Two British direct broadcast satellites (Unisat), Swedish Tele-X, Italsat and Rainbow have dropped off schedule, although Unisat and Italsat are listed among reservations. Intelsat's first use of Ariane 4 has slipped from Dec. 1986 to year later. New Ariane 4 payloads are French DBS bird TDF 2 and German communications satellite DFS 1.

Next Ariane 3 is scheduled for Jan. 29 launch, will carry Brazilian satellite SBTS 1 and Arab satellite consortium's Arabsat. Launch insurance policies had not been placed with underwriters for either of these as of last week. Lack of policies has potential to delay launch, but insurers we talked with said they expected customers would place insurance by then.

Rest of 1985 schedule: April, GTE Satellite's GStar 1B and GTE Spacenet 3; July, European Space Agency's Giotto mission to Comet Halley; Aug., French PTT's Telecom 1B and 2nd Brazilian bird, SBTS-2 or European Space Agency/Eutelsat satellite, ECS 3; Sept., Intelsat V F13 or French remote sensing satellite Spot and Swedish scientific satellite Viking; Nov., whichever payload wasn't launched on Sept. flight; Dec. or Jan., GTE Satellite's GStar 1A and SBTS-2 or ECS 3.

Charles Bigot, Arianespace dir., said at time of last Ariane launch that company will be signing several contracts in coming weeks, including deals with German Bundespost for 2 DBS-Kopernikus spacecraft and with Italy for Italsat 1. Another European customer to reserve space is Luxembourg's Coronet. To hold reservation, company hoping to launch international video satellite must pay $100,000 fee.

Outside Europe, Arianespace Chmn. Frederic D'Allest said, "our main goal is China for the launch of 2 DBS spacecraft" for Chinese Bcstg. Satellite Corp. (CBSC). D'Allest said he went to Beijing last month and company had been "preparing a Chinese launch contract since 1981." Chinese have reserved 2 launch slots on both Ariane and shuttle.

D'Allest said Arianespace was pleased with its customer record as compared to NASA's, adding: "Our current activities exceed our initial forecasts. As the first company with European support to take the risks of commercial space transportation services, we've already obtained 30 launch contracts compared with 33 contracts for NASA's space shuttle. We have 16 customers in 4 continents. With the Ariane 4 family we will continue to offer highly competitive launch services."

D'Allest said success had put company into "growth phase." In 1985 firm will launch 10 satellites and probe to Comet Halley and will inaugurate 2nd launch complex with Ariane 3 by end of Aug. Although he acknowledged that company was "encountering problems" related to growth, he downplayed reports (SW Sept 17 p11) that Ariane faced "slower than anticipated launch rate." He said: "We're adapting the launch rate to the needs of the customer. The only satellite to be launched with a delay of some weeks will be Arabsat, but we must await the availability of SBTS-1 [Brazilian bird]" before launch can be cleared. Arianespace has problems setting precise launch schedules because company must take into account customer requirements.

November 26, 1984

CANADIAN SATELLITE USERS PONDER FUTURE, EYE NEW MARKETS

OTTAWA -- Who's who of satellite market in Canada met here last week at first Telesat Canada-sponsored Canadian Satellite User Conference to ponder future made uncertain by newly elected, tight-lipped govt. and by prospect of industry privatization. Conference attendance was 475, with fewer than 30 exhibitors-- small by U.S. standards.

Times have been hard for Canadian satellites. Market has been growing slower than anticipated, leaving Telesat no choice but to try to unload one of its 3 Anik-C birds. That decision hasn't cheered Canadian users, some of whom said they'd rather see excess capacity made available so rates would come down. But Telesat has one full satellite's worth of empty Ku-band capacity -- "adequate for comfortable growth for the next 4 years," Pres. Eldon Thompson said.

In interview, Thompson attributed overbuilding to gap between expectations in 1977, when capacity was planned, and present. He said market changed because: (1) Telesat was

overoptimistic. (2) Country was gripped by recession beginning in 1979, which cut 1977 15-28% growth rate in telecommunications to negative rate in 1980. Market has rebounded to growth of about 6%. (3) In 1976, Canadian Radio-TV & Telecommunications Commission (CRTC) announced there would be pay-TV services by 1978 but didn't authorize any until 1983, "so an industry which should be 8 years old is less than 2 years old." (4) Carriers have introduced low bit rate encoding on terrestrial lines, which effectively will double capacity of ground segment, lessening carriers' interest in space segment.

Users here complained that satellite service is too costly and that duopolist (with Telecom Canada) Telesat doesn't offer flexible enough service. Thompson said he's taken criticism to heart, that Telesat has found such users as news operations "willing to make long-term commitments to use of smaller chunks of capacity" for 5-min. newsfeeds or slightly longer clips, and that Telesat would respond to need. He said SCTC leases (single channel per carrier) would be available for radio distribution soon -- which would spur creation of regional networks -- and agreed that partial transponder leases would better serve market.

Privatization could have substantial effect on satellite market, he said. Bell Canada, on behalf of carriers, has made offer to buy govt. share of Teleglobe Canada and to distribute ownership among carriers on pro rata basis. Offer suggested that Bell would be interested in any govt. holdings that may be available for privatization. Thompson said that although govt. hasn't given any indication it's willing to part with its 50% ($70 million Canadian) share in Telesat, at least "half dozen" groups have indicated interest in buying.

"At least one group" of broadcasters, which Thompson didn't name, has made clear it's candidate for buy-in, he said. Thompson said he favored at least some public stock offering if privatization occurred, "to keep us honest." Broadcasters fear Telesat takeover by carriers, who they think would slant tariffs toward voice (telephone) and data traffic... "It's pure speculation that the govt. would be willing to sell its share," Thompson said. Statement is indicative of guesswork involved in trying to make plans on as-yet uncertain policy determinations of new regime. Prime Minister Brian Mulroney's Tory govt., out of power for 2 decades, isn't making any hasty moves to make good on his campaign promises of privatization and freer market trade with U.S.

Officials are tight-lipped about any issue touching on policy. News media have been abuzz here for weeks about memo circulated in External Affairs Minister Joseph Clark's office ordering govt. officials not to speak to press. Media have protested actions such as officials' cancelling private engagements and not answering phone calls. Public outcry and Liberal Party charge that govt. was being "obsessively secret" led to Mulroney response on Parliament floor Nov. 20 that "we're accessible." He promised biweekly news conferences.

Promise hasn't much loosened tongue of new Communications Minister Marcel Masse, who's been accessible to broadcasters and telecommunications officials only in fact-finding efforts. In speech Nov. 21, first public appearance of his tenure, Masse pledged to ensure that regulatory and policy actions encourage development of satellite technology. Only policy pronouncement he made was promise that govt. was committed to legalizing home earth station use and to issuing permits for privately owned transmit earth stations by 1986. "International development is one of my strongest personal priorities," Masse said, but he offered no specifics on how Telesat or Teleglobe would be given more leeway to develop markets outside Canada.

"I think they're suffering from information overload," Thompson said in attempting to explain silence. He did say he expected govt. to step in and resolve so-called "interconnect issue." CRTC has just completed 7-week hearing on whether Canadian equivalent of U.S. Regional Holding Cos. should be allowed to compete in offering long distance service. Regulators look askance at U.S. deregulatory experience, shun term "deregulation," speak cryptically of seeking "balanced" system of govt. regulation and limited competition. CRTC Vice Chmn. John Lawrence said it would be "some time" before complex issue is resolved...

In contrast to U.S., Telesat looks to DBS as low-to-medium-powered alternative for reaching uncabled market, said Vp-Corp. Development John Almond: "High-powered DBS is a

costly and risky venture, given Canada's high cable penetration and the high cost of high-powered DBS satellites."

Pierre Morrisette, pres. of Canadian Satellite Communications (Cancom), said he saw DBS, more accurately "direct-to-home satellite service," as C-band service possible now through distribution of descrambling unit. Technical advances have made it cost effective to cable communities with as few as 75 homes, making dependence on terrestrial distribution of continuing importance, he added. He predicted that combination of low-powered DBS and privatization in telecommunications would give rise to new satellite service providers -- in other words, more competition for Cancom. Response to availability of U.S. clear channels for cable viewers has been positive, he added; Cancom now makes available 3 networks out of Detroit, with signals uplinked from Windsor (ABC was added only week ago), and PBS.

Canada has learned its lesson on how far it can go in opening market to programming competition; pay-TV services got off to slow start there.

Moses Znaimer, pres. of Much Music (MM), which began distributing to cable systems 2 months ago after long regulatory delay, said early success of his service was "first glimmer of hope for pay services in Canada after a pretty dismal performance to date." Problems involved overlicensing and poorly marketed services.

In early pay TV days, there were 2 disconnects for every retention, Znaimer said. Music channel now is being marketed in "3-pack" combination of movies, sports and music. After package was introduced, "downward churn stopped immediately," he said. He claimed MM's performance had exceeded expectations, that service now had 425,000 subscribers. He has pushed Telesat to also offer beams covering half of country, instead of single east-west beam, so offering could be more "time sensitive."

Telesat is relying on detailed market studies to project capacity. Plans call for requirements of 4th generation system to be determined by end of next year, which will lead to procurement in 1987, first launch in 1990. High-definition TV is strong possibility for this set of satellites. C- and Ku-band hybrids are being considered. One duo-band satellite obviously would be cheaper than 2 single-band birds, Almond said, "difficulty is in forecasting mixed requirements" and in frequency coordination. U.S. is pressing Canada to tighten its orbital spacing, although that could make coordination problems tougher.

Telesat officials are excited about prospect of mobile satellite system in cooperation with U.S., are anxious to deal with whichever U.S. provider is authorized. Remote sensing and paging would be ancillary services provided by 2 satellites, which could offer partial redundancy, Almond said.

Conference Notebook

While govt. is silent on general telecommunications policy, it's clear officials favor more private funding of govt.-supported Canadian Bcstg. Corp. Govt. recently cut $85 million from CBC's $1 billion budget. Some $200 million of current budget is privately funded; govt. cutback represents about 10% of its total commitment. Vancouver operation, which took largest cuts of any CBC region, faces loss of about 100 jobs, 1/6 of workforce. Cost reductions nearing 20% were ordered in region.

President Reagan's so-called "Star Wars" plan to study weapons in space drew fire from Terence Heenen, pres. of British Columbia Telephone, who said weapons scenario was still "thankfully only conjecture." Canadian Dept. of National Defense (DND) has agreed with U.S. Defense Dept. to update radar defense communications links along northern Canadian border, according to John Killick, DND asst. deputy minister. Killick said details were still being worked out. He added that Navy also was upgrading shipboard communications facilities and had purchased Fleet Satellite Communications (Fltsatcom) system terminals to keep in touch with U.S. forces. DND has also funded 5-year $50 million study to evaluate use of 30/20-GHz band. Project will begin in next fiscal year.

BRITISH OPPOSE WESTERN HEMISPHERE DBS TREATY

U.S. officials who returned recently from bilateral talks in London report Britain is opposing incorporating Region 2 (western hemisphere) DBS agreement into radio regulations of International Telecommunication Union (ITU).

At FCC last week, officials said that British, with some support from other countries in W. Europe, believe agreement worked out to govern DBS in western hemisphere isn't compatible with earlier pact to regulate broadcast satellites in Europe decided at 1977 World Administrative Radio Conference (WARC '77). New agreement was reached at 1983 Regional Administrative Radio Conference (RARC '83).

British and other opposition to RARC '83 are expected to be raised at next year's WARC-ORB (name being given to next year's WARC on satellite orbit), which was called for at WARC '79 to allow further consideration of broad issues relating to use of geostationary orbit and satellite communication frequencies. While U.S. had hoped that WARC-ORB could agree to incorporate results of RARC '83 into radio regulations, British believe that WARC-ORB lacks authority to do so as it's only first session of what will be 2-part space-planning exercise. Objections to RARC '83, from British and other Europeans, are said to include:

Fear that Region 2's feeder link plan (to provide for frequencies for uplinking to DBS satellites) could impose restraints on development of feeder link plans for Regions 1 (Europe and Africa) and 3 (Asia).

Concern that power-flux density limits (controlling power of DBS system downlinks) adopted at RARC '83 could subject Region 1 countries to more interference than was permitted by criteria adopted at WARC '77 (which developed DBS plans for Regions 1 and 3).

Concern that Region 2 DBS scheme could compromise access to orbit for fixed-satellite systems launched by administrations in Region 1.

While U.S. doesn't believe any of these concerns present insurmountable problems, situation is seen as damaging because: (1) Dispute comes just as U.S. must solidify alliances with Europeans to present united front against demands from developing countries for assignments of orbital locations and spectrum. (2) Dispute, if it causes delay in incorporation of RARC '83 plan into ITU regulations, could mean U.S. broadcasting satellites would enjoy less protection from interference. (3) Dispute could frighten financial sources, which may be reluctant to fund DBS development in absence of concrete regulatory scheme.

FCC has decided not to appeal decision of U.S. Appeals Court, D.C., that overturned Commission rules on DBS. Next step would be to ask U.S. Supreme Court to hear case, but instead FCC will start proceeding to comply with Appeals Court's mandate, Smith said. Notice of proposed rulemaking will be issued early next year.

December 3, 1984

COMSAT TERMINATES DBS TALKS WITH PRUDENTIAL, SETS LAYOFFS

Comsat has abandoned its DBS plan, will lay off all but handful of Satellite TV Corp. employes and will take $24 million after-tax write-down (66 per share) on losses incurred to date, company announced last week. At same time, Comsat announced it has ended talks with Prudential Insurance and UPI CEO Douglas Ruhe aimed at merging STC with United Satellite Communications (SW Sept 10 p4).

Comsat called moves "redirection" of its DBS plans, said it will "continue to explore an appropriate Comsat role in this business area that is consistent with acceptable business and financial risks." At Nov. 30 press conference by Comsat Pres. Irving Goldstein, it was clear

that company now has no strategy other than to consider options. Goldstein didn't rule out selling pair of satellites being constructed for it by RCA, for which company already has paid $75 million and must pay $45 million more by 1986.

Goldstein said decision to withdraw was taken at special board meeting held that morning in N.Y. Asked whether it might be appropriate for senior management of Comsat to resign following shareholders' $100 million loss in SBS and new $24 million loss in STC, he said that Comsat management was stronger than ever, that company was positioned to enjoy growth in international satellite services and to make profits in new domestic ventures.

Comsat said it will retain orbital slots it has been allocated by FCC for DBS service. But regulatory experts in Washington doubted that Comsat can retain slots if it doesn't intend to operate DBS. Goldstein refused to rule out any new business for STC, including common carrier DBS or possible use of satellites for business communications. Goldstein said: "We have ideas, none of which are ready to be disclosed... DBS or DBS-related services... lease or sale [of satellites] to domestic or foreign parties--we're not precluding any options" to make good on money already invested in venture. Goldstein said one-time writeoff of losses associated with "virtually all" nonsatellite assets of STC "will cover it."

Prudential official, asked whether USCI would survive, said: "I don't think we know yet." Prepared statement expressed disappointment: "We are unfortunately faced with a real possibility that our investment in this promising technology will not work out." Company, which has invested $68 million in its 51% share of USCI to date, said deal with Comsat would have been "good investment," but that now "Prudential has substantial concern about its investment in USCI in light of Comsat's decision." USCI board will meet shortly to "consider the future of the company."

If Comsat does decide to cut losses and sell its 2 DBS satellites, it would add to glut of satellites. We count about 7 with for-sale signs: Palapa B-2 and Westar 6, rescued by shuttle; 3rd Anik C, offered by Telesat Canada; 2-3 satellites ordered by by GTE and Spacenet, for which merged GTE Spacenet Corp. doesn't have orbital slots or customers; plus possibly one RCA Satcom, not immediately needed by RCA.

M/A-COM READY TO MAKE HOME DECODER UNITS, CHMN. TELLS ANALYSTS

M/A-Com's VideoCipher 2 digital encryption system has been chosen by Showtime/Movie Channel for scrambling signals of both pay cable services, companies announced last week. Decision to use M/A-Com equipment -- same gear HBO is using -- would appear to set de facto standard for cable programming business. But whether standard will lead to DBS sales is still biggest question mark.

Deliveries will begin in 1985 first quarter, with S/MC at first concentrating on east coast affiliates. Turn-on and testing will continue through 2nd and 3rd quarters. S/MC Chmn. Neil Austrian said pay service has been studying scrambling technology "for well over 2 years. We are extremely pleased" with VideoCipher 2. M/A-Com Chmn. Richard DiBona said: "We are looking forward to a very successful effort for enhancing the security and control of their overall distribution system." No financial terms were disclosed.

HBO and Showtime remain mum on whether they've decided to sell pay TV to approximately 650,000 backyard dish owners. Big hints, though, came from DiBona, who announced Showtime deal at meeting with N.Y. security analysts Nov. 29. M/A-Com is preparing to produce home decoder unit for dish owners -- consumer version of unit that cable systems will get. Production capacity is being readied in Puerto Rico and subcontractors have been signed, DiBona said. "We don't want to be sitting here with a huge demand for the product" and not have any, he said. He added that sales of home units could have impact on company revenues in 2nd half of 1985.

Curiously, DiBona told analysts that new cable law will obligate all programmers who

scramble to market services to dish owners. That was way earlier version of measure read, but amended provision in legislation signed by President leaves decision on decoder sales to programmers. Moreover, DiBona's opinion on bill isn't held by everyone at M/A-Com. Staffer in company's Washington office said executives who actually are in charge of producing home unit know that law doesn't obligate sales of scrambled programming. What remains unclear is whether M/A-Com preparations for production are based on information M/A-Com has gleaned from pay TV companies or simply its own bet on probability of DBS sales. DiBona did call home unit effort calculated risk.

Speaking from Burlington, Mass. hq after analysts meeting, M/A-Com Corporate Communications Dir. John Forbes admitted company hasn't yet done "careful analysis" of cable bill, insisted "programmers have indicated, I believe publicly, that they will have some kind of vehicle to provide their service to people with home earth stations," and programmers would "be happy to sell their programming."

However, Showtime said it was only announcing deal for encryption system, would have nothing to say on DBS. "Maybe he's making a bet" on DBS sales, company spokesman said of DiBona's comments. HBO still is in process of studying viability of DBS sales, spokesman said.

Another clue to HBO's plans comes from Society for Private & Commercial Earth Stations (SPACE), where Exec. Vp Charles Hewitt told us SPACE board met with HBO representatives during recent trade show in Dallas. HBO told board home decoder would be available to earth station market, but fees and distribution method hadn't been determined yet. Hewitt reported HBO said it probably would give cable affiliates exclusive franchise for movie service in their geographic areas, let TVRO dealers sell decoder. However, SPACE wants dealers to be able to sell movie service, will complain to Justice Dept. about HBO plans. Trade group in Jan. will seek legislation barring programmers from bundling all satellite services into one package fo rsale to dish owners, he said. SPACE also will bring back to Capitol Hill measure obligating programmers to make scrambled programming available. Also at meeting with analysts, DiBona said M/A-Com has talked to other programmers, including MTV, ESPN and Disney Channel, about encryption technology. He hinted other announcements from company may come at Western Cable Show this week.

M/A-Com's eventual hope is to incorporate VideoCipher 2 technology into next generation of cable converters, DiBona also revealed. Joseph Bothwell, senior vp for corporate development, said sales in cable/home division were up only 5% in 1984 and company was "fortunate to do that." Cable miles built in 1984 will total 100,000, will drop to 90,000 in 1985. M/A-Com is moving into new products such as addressable converters, low noise amplifiers for home systems and complete TVRO systems to shore up sales pinched by slow cable market, he added. Sales in cable area will be flat or down 10% over next several years, DiBona said. He also announced company is in negotiations with 2 retailers to provide systems of earth stations for 500 and 300 sites, respectively. In response to question, DiBona said earth station prices probably will end up in $5,000-$10,000 range.

FCC is expected to authorize next round of DBS applicants at Dec. 4 Commission open meeting. Commission also will take important step toward implementing cable deregulation law S-66 when it launches rulemaking to define markets where there isn't enough competition to allow for deregulated basic service rates. Broad rulemaking also will resolve several outstanding cable issues, including amount of franchise fees allowable. Also on agenda is item on whether to revamp rules on international earth station ownership and use.

ACTS (Advanced Communications Technology Satellite)
18, 19, 31, 43, 65, 66, 72, 73, 91, 95, 108
Advanced Communications
50, 53, 54, 56, 58, 65, 73, 76
Aetna
50, 86
AIAA (American Institute of Aeronatics & Astronautics)
67, 68
Ancom (Alcoa-NEC)
51, 52, 95, 99
Anik
4, 11, 21, 25, 35, 39, 41, 43-45, 56, 63, 99, 101, 119, 120, 124
Ariane
2, 9, 36, 39, 46, 50, 67, 69, 70, 77, 83, 89, 106, 119, 120
Atlantic satellite traffic
1, 9, 24, 35, 64, 99, 100
Australia
2, 101, 116
Backyard earth stations
30, 38, 43, 57, 59, 93, 97, 106-108, 113-115, 118, 124
BBC
3, 29, 39, 46, 49, 59, 63, 73, 75, 94, 103, 117
Biondi, Frank
11, 46, 49, 58-60, 109, 110, 118
Blume, Richard
56
Broadcasting
1, 4, 5, 13, 16, 24, 28, 59, 63, 64, 67-69, 71, 73, 75, 81, 87, 88, 91-93, 95, 99, 100, 104, 106, 107, 112, 117, 123
Cable
1, 4, 5, 8, 10-13, 16, 17, 19-23, 25, 26, 28-35, 39, 40, 42-45, 47-49, 53, 54, 58-62, 64, 65, 67-69, 71, 75-77, 88-90, 93-95, 97, 98, 101, 103, 104, 106, 108-111, 113, 115, 116, 118, 122, 124, 125
Canada
4, 6, 12-14, 17-19, 21, 25, 35, 39, 41, 119-122, 124
CBS
3, 8, 12, 25, 26, 30, 31, 34, 41, 48, 51, 52, 54-56, 59, 61, 67, 68, 70, 75, 79, 80, 84, 91, 103, 108
Charyk, Joseph
4, 67, 80, 86, 101
Chicago
42, 56, 58, 62, 69, 90, 113
China, Chinese
2, 37, 40, 62, 68, 70, 71, 73, 77, 96, 112, 117, 120
Cinemax
44, 47, 48, 98, 118
C-MAC
21, 59, 101, 109, 116
Comsat
4, 5, 11, 16, 23, 29, 31, 36, 43, 45, 47, 50-52, 55-58, 63-65, 67, 68, 71, 72, 74, 80, 85, 86, 88, 94-99, 101, 107, 108, 112, 116-119, 123, 124
CONUS
7, 13, 46, 53-55, 84, 85
Coronet
28, 68, 69, 83, 88, 89, 101, 102, 104, 112, 115, 116, 120
Cygnus
64, 65
DBS Assn.
34, 37, 38, 110-112, 117
DBSC (DBS Corp.)
20, 29, 45, 46, 55, 56, 65, 102, 103, 105, 106, 108, 112
Dishes
1, 3, 4, 13, 14, 16, 20, 23, 25, 27, 30, 35, 39, 41, 42, 44, 45, 47, 48, 54, 56, 58-62, 67, 69, 71, 89-91, 93-95, 97, 98, 101, 105-110, 113-115, 124, 125
Divestiture
45, 64
Dominion Video
79, 94, 96, 108
Earth station
1, 4, 13, 24, 34, 39, 45, 84, 90, 97, 106, 110, 115, 117, 121, 125
EBU
3, 116
Egypt
73
Encryption
5, 20-23, 33, 34, 37, 41, 44, 48, 57, 59, 63, 70, 78, 110, 112, 124, 125
European
1-3, 6, 9, 10, 19, 21, 24, 26, 28, 29, 39, 48, 52, 62, 65, 67-70, 73, 76, 77, 82, 83, 88, 89, 101, 102, 104, 115, 119, 120
Eutelsat
1, 9, 10, 24, 39, 48, 67, 101, 102, 115, 120
Fairchild
46, 66
Farming
104, 105

FCC
4, 6, 8, 10, 11, 13, 16-18, 20, 24, 26, 28-34, 37-41, 43, 45, 47, 50-52, 54-57, 59, 63-65, 68-70, 72, 74, 76-79, 80, 81, 83-91, 93, 95, 96, 100, 102-104, 106-109, 111, 117, 119, 123-125
Ford
9, 27, 28, 35, 36, 41, 45, 46, 50, 59, 70-72, 75, 81, 99, 103, 106, 108, 112, 117
France
7, 9, 19, 24, 35, 36, 39, 46, 48, 49, 67, 69, 71, 73, 76, 77, 88, 89, 102, 112, 115, 116, 119, 120
Friedland
56
Galaxy
13, 20, 21, 35, 43-45, 47-49, 53, 57-61, 66, 67, 69, 73, 76
GE
12, 52, 59, 70, 75, 77, 79, 81, 95, 108, 113
General Cinema
23, 30
General Instrument
10, 20, 23, 25, 33, 34, 39, 42, 56, 62, 70, 96, 99, 113
Goldstein, Irving
4, 67, 80, 101, 123, 124
Graphic Scanning
55, 56, 59, 85, 86, 102, 103, 108, 117
GTE Satellite
4, 9, 41, 45, 50, 52, 63, 87, 119, 120
HBO
8, 11-13, 20, 21, 26, 31, 42-44, 46-49, 53, 56-61, 69, 75-77, 93, 94, 97, 98, 109-113, 118, 124, 125
HDTV (high definition TV)
3, 12, 25, 26, 30, 34, 36, 41, 48, 51, 53-55, 61, 78, 82, 91, 95, 104, 112, 122
Helvesat
67
High-power
3, 5, 11, 16, 17, 23, 29, 30, 32, 37, 39, 45, 49, 53, 54, 63, 70, 73, 75, 79, 82, 84, 85, 92, 95, 96, 100, 119
House of Representatives
3, 13, 45, 65, 69, 70, 75, 105, 106, 114, 117
Hubbard
11, 16, 17, 30, 32, 33, 52, 68, 73, 79, 81, 96, 108
Hughes
1, 2, 13, 20, 24, 25, 28, 35-38, 41, 42, 44, 45, 50, 52, 53, 56-58, 60, 65-67, 69, 72-74, 76, 79, 83, 95, 99, 100
IAF (International Astronautical Federation)
39
IBA (Independent Bcstg. Authority)
28, 59, 75, 101
IBM
50, 62, 86
Indianapolis
31, 42-44, 48, 56, 69, 113
Insat 1-B
27
Interim DBS
19, 88, 117, 118
Ireland
47, 73, 79, 99, 100
Japan
3, 4, 10, 29, 37, 48, 52, 57, 61, 66, 70, 71, 73, 77, 79, 82, 96, 97, 104, 112, 114
Justice Department
111
Ku-band
2, 13, 23, 24, 27, 30, 36, 38-40, 46, 50, 57-59, 64, 66, 69, 70, 72-74, 76, 77, 114, 117, 120, 122
Kwit, Nathaniel
11, 42, 49, 56, 58, 59, 62, 70, 77-79, 99, 107, 118
Low-power
5, 12, 15, 16, 21, 23, 30, 32, 33, 39, 43, 46, 73, 81, 94, 98, 117
Luxembourg
3, 24, 28, 67-69, 73, 77, 83, 88, 89, 94, 102, 104, 112, 115, 116, 120
M/A-Com
19-22, 27, 30, 34, 38, 41, 42, 44, 48, 59, 64, 86, 91, 98, 108, 110, 112, 118, 124, 125
Medium-power
11, 23, 25, 30, 31, 37, 39, 41-43, 49, 55-57, 60, 68, 75, 89, 100, 104
Montreux
3
Murdoch, Rupert
4, 19-21, 26-28, 41, 42, 50, 60, 72, 75, 86, 119
NASA
6, 9, 27, 50, 54, 65, 66, 68, 73, 76, 82, 91-93, 117, 120
National Christian Network (NCN)
54, 56
National Exchange
53, 68, 69, 76
NEC
14, 21-23, 30, 34, 51, 52, 95, 99, 112, 117
NHK
10, 48, 61, 112

1988
62, 66, 73, 75, 78, 84, 89, 106
1990
1, 14, 15, 31, 82, 83, 116, 122
Nippon Electric
79
Northstar
30, 34, 35
Oak Communications
21, 38
Pacific satellite traffic
15, 18, 54, 64, 65
Pakistan
78
Paramount
46, 56, 60, 72, 80
Portugal
20
Private Satellite Network
33, 39, 46, 73
Programming
4, 8, 11-13, 15-19, 21, 23-33, 35, 37, 39-43, 45, 47-49, 50, 51, 54, 55, 58, 60, 62, 63, 65, 68-70, 76, 84, 87, 88, 94-96, 98, 100, 101, 104-106, 109-112, 116, 122, 124, 125
Prudential
10, 23, 56, 62, 70, 78, 94, 96, 98, 99, 101, 107, 113, 118, 119, 123, 124
Radio Shack
47, 48, 58, 62, 108
RARC (Regional Administrative Radio Conference)
4-6, 10, 12-20, 30, 31, 40, 85, 123
RCA
2, 3, 6, 12, 23-26, 37, 41-43, 47, 48, 52, 54-57, 59, 65, 66, 68, 73, 74, 77, 79, 80-86, 95, 99, 102, 103, 108, 109, 112, 113, 117, 119, 124
RFP (request for proposals)
40, 47, 62, 68, 71, 77, 96, 112, 117
Rooftop earth stations
13, 31, 65
Ruhe, Douglas
98, 101, 107, 123
Satellite Development Trust
54, 56
Satellite Syndicated Systems
54
SBS
10, 26, 28, 33, 38, 39, 41, 42, 46, 50, 52, 60, 67, 72, 79, 80, 86, 87, 99, 101, 118, 119, 124
Scandinavia
65
Schein, Harvey
25-27, 41, 42
Scientific-Atlanta
47, 98, 101, 110, 113, 116
Shuttle
2, 9, 27, 35, 36, 38, 50, 54, 55, 57, 68, 69, 73, 76, 79, 83, 92, 95, 117, 120, 124
Signal scrambling
1, 20, 28, 30, 35, 39, 44-46, 48, 59, 77, 93, 96, 97, 98, 107, 108-110, 113, 115, 118, 124, 125
Skyband
25-28, 30, 38, 41, 42, 60, 119
SMATV
13, 21, 23, 31, 43, 44, 49, 76, 77
SSS (Satellite Syndicated Systems)
54, 56
Standards
8, 9, 12, 24, 26, 30, 33, 34, 37, 38, 40, 41, 50, 52, 57, 68, 70, 78, 88, 101, 111, 114-117, 120
St. Louis
22, 23, 61
STC (Satellite TV Corp.)
10, 11, 20, 23, 29-31, 34, 38, 39, 43, 47, 51, 52, 54-59, 63, 67, 71, 72, 75, 80-83, 85-88, 94-96, 99, 107, 109, 111, 112, 116, 118, 119, 123, 124
Switzerland
2, 3, 19, 67, 81, 89, 112
Telease
21-23
Telesat Canada
4, 41, 119, 120, 124
Tele-X
65, 72, 109, 119
TDF-1
2, 19, 24, 67, 69, 71, 72, 76, 77, 89, 102, 112, 115
Time Inc.
20, 21, 43, 46, 48, 49, 58, 77, 109
Toshiba
12, 51, 52, 99, 114
TRW
55, 65, 92
Turner, Turner Bestg.
11-13, 21, 43, 44, 49, 53, 58, 60
TVRO
30, 38, 57, 71, 89, 90, 94, 97, 98, 108, 109, 114, 115, 125
TV-Sat
2, 36, 48, 52, 67, 71, 72, 77
TWTAs (traveling wave tube amplifiers)
38, 40, 53, 70, 82-84, 95
U.K.
7, 8, 28, 39, 47, 59, 61, 71, 79, 94, 100, 101, 103, 109, 117
Unisat
28, 36, 46, 49, 59, 74, 75, 79, 94, 104,

117, 119
USCI (United Satellite Communications, Inc.)
4, 10, 11, 20, 23, 25, 30, 31, 35, 39, 42-49, 50, 56, 58, 59, 61-64, 67, 69, 70, 75, 77-79, 80, 81, 87-90, 94, 96, 98, 99, 101, 107, 108, 112, 113, 118, 119, 124
USSB (U.S. Satellite Bcstg.)
4, 11, 16, 17, 23-25, 30, 32-34, 40, 41, 45, 51, 52, 55, 56, 59, 64, 68, 72, 73, 76, 77, 79, 81, 83, 85-88, 96, 103, 108, 109, 112, 117
U.S. Court of Appeals
45, 47, 63, 87
VideoCipher II
59, 98
Video Satellite Systems
55, 59
WARC (World Administrative Radio Conference)
4, 19, 31, 32, 43, 50, 72, 73, 79, 81, 93, 123
Washington
4, 5, 9, 11, 12, 20, 21, 29, 32-34, 37, 38, 45, 46, 54, 58, 59, 67-72, 74, 78, 79, 100, 104, 105, 108, 110, 111, 113, 117, 124, 125
Western Union
9, 41, 55, 56, 59, 72, 84, 86, 99, 103, 108, 119
Wold
61, 65, 70, 103
WTBS
11, 12, 21, 43, 44, 49, 60
Zoning
56, 77, 89-91, 98